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What really matters?

Materiality disclosures in sustainability reporting practices

Responsible Business

Master's thesis

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ABSTRACT

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This thesis attempts to increase the understanding of materiality in the context of sustainability reporting. The objective is to examine the materiality concept and its application, as well as to explore the point of view through which something is considered as material. The study compares the practices and patterns used in defining and measuring materiality, and identifies the underlying frames of materiality in sustainability reports.

The theoretical framework of the study includes a review of the materiality concept based on previous literature and sustainability reporting standards. The theoretical framework consists of sustainability reporting literature addressing the issues of sustainability, mandatory and voluntary reporting, accountability, motives for reporting and stakeholder engagement.

This study follows qualitative research tradition and the analysis is divided into two phases. The first phase is carried out in the form of qualitative content analysis, and the second phase uses frame analysis as a tool for analysis. The empirical data consists of materiality disclosures collected from 29 sustainability reports. The reporting organizations are listed in Global100 index as the most sustainable companies in the world and have published a sustainability report in accordance with the GRI G4 Sustainability Reporting Guidelines.

The findings of this research are summarized in the following three propositions: 1) Materiality reflects how the company positions itself towards sustainability and accountability. 2) The current understanding of materiality does not enhance stakeholder accountability. 3) The conflicting objectives of sustainability reporting are reflected in materiality disclosures.

The contribution of this study to existing sustainability reporting literature is to add insight to the materiality concept. This study reveals a concern of the materiality concept being used as a tool to create a preferred image of a company's sustainability performance. This study suggests that by using the materiality concept to acknowledge the most significant economic, environmental and social impacts, accountability and transparency could be increased.

CONTENTS

1	INTRODUCTION	1
1.1	Background of the study	1
1.2	Purpose of the study	3
1.3	Research design	4
1.4	Structure of the research report	7
2	MATERIALITY IN SUSTAINABILITY REPORTING	9
2.1	Sustainability reporting	9
2.1.1	Defining sustainability	9
2.1.2	Sustainability standards	10
2.1.3	Mandatory and voluntary reporting	12
2.1.4	Motives for reporting	15
2.1.5	Audience for the report	18
2.2	Materiality	21
2.2.1	Defining materiality	21
2.2.2	Materiality principle according to GRI	24
2.2.3	AccountAbility's materiality framework	27
2.2.4	Materiality for IR purposes	28
2.2.5	SASB's industry-specific materiality map	30
2.2.6	Summary of the materiality approaches	31
3	METHODOLOGY	35
3.1	Qualitative research strategy	35
3.2	Data collection	36
3.3	Qualitative content analysis	38
3.4	Frame analysis	42
4	FINDINGS	45
4.1	The content of materiality disclosures	45
4.1.1	Materiality definitions	45
4.1.2	Materiality assessment	47
4.1.3	Stakeholder engagement	50
4.1.4	Purpose of materiality analysis	53
4.2	Identified frames of materiality	56
4.2.1	Risk management frame	56
4.2.2	Business opportunity frame	58
4.2.3	Accountability frame	60
4.2.4	Unified strategy frame	61

4.2.5	Stakeholder interest frame	62
4.2.6	Overview of the frames	64
5	DISCUSSION AND CONCLUSIONS	66
5.1	Theoretical contribution	66
5.2	Contribution to organizational practice	74
5.3	Suggestions for policy implications	76
5.4	Limitations and suggestions for further research	78
	REFERENCES	81

APPENDICES

Appendix 1:	The characteristics of the sample companies	89
Appendix 2:	Connecting material issues with GRI aspects	91
Appendix 3:	Materiality matrices	92
Appendix 4:	Visual presentation of risk management frame	95
Appendix 5:	Visual presentation of business opportunity frame	96

Figures

Figure 1	Research process	5
Figure 2	A simple model of accountability (Gray et al. 2014, 52)	16
Figure 3	Materiality matrix according to GRI (GRI 2013c 33–39)	26
Figure 4	Materiality definitions	45
Figure 5	Sources to identify relevant issues	48
Figure 6	Usage of materiality matrix	49
Figure 7	Prioritization criteria	49
Figure 8	Stakeholder engagement methods	51
Figure 9	Reported purpose of materiality assessment	53
Figure 10	Connection between materiality analysis and content index	54

Tables

Table 1	Approaches to materiality according to reporting standards	32
Table 2	Identified frames	65

1 INTRODUCTION

1.1 Background of the study

The impacts that the overall current human and economic activities have on the future society, ecosphere and economy are undeniable and complex, and the negative impacts have serious consequences such as climate change, environmental degradation, social injustice and poverty, food crisis and water scarcity (Bebbington et al. 2014, 3–9). Companies are directly or indirectly responsible for such sustainability challenges. The basis of this current work relies on the normative assumption that companies are held accountable over their social, environmental and economic impacts caused by their operations to a wide group of stakeholders (Gray et al. 2014, 8).

Sustainability reporting can be defined as a tool for communicating sustainability impacts (Gray et al. 1987, as cited in Gray et al 2014, 3). Through the process of reporting, social and environmental impacts and concerns can be recognized and consequently managed and controlled (Bebbington et al. 2014, 4). The way to approach accountability and sustainability reporting in this study is through the materiality concept. Materiality is a fairly new concept in the sustainability reporting field (Unerman & Zappettini, 2014; Edgley et al. 2014, 12) but it is a central element in distinguishing the most important sustainability information from the insignificant immaterial information. This study is interested in the conceptualization and operationalization of the materiality concept in sustainability reporting practices.

The latest versions of different reporting guidelines and standards emphasize the materiality principle in defining the report content (see GRI 2013a, SASB 2014, IIRC 2013b, AccountAbility 2008). Materiality means that instead of reporting on all the possible issues related to sustainability, companies should focus only on material issues. The purpose is to ensure that the report addresses relevant and reliable information for stakeholders without unnecessary data. However, what makes the materiality concept interesting is its malleable nature. In sustainability reporting, judgments about materiality are localised, varying on the

company and context level. (Edgley et al. 2014, 30.) “Materiality, like beauty, is in the eye of the beholder” (Hicks 1964, 159).

There are multiple interpretations, promoted by different entities, on how to define what should be considered as material and from whose point of view. The different reporting standards are using different definitions and, moreover, a wide range of methods, tools, metrics and frameworks by different entities in the field provide guidance on how to define what matters most. Materiality has become an integral part of the guidelines, but instead of determining a standardised set of reporting requirements, the current reporting standards have removed the responsibility to define report content back to the organizations that are responsible for conducting a comprehensive materiality process.

Despite the centrality of the materiality concept in sustainability reporting practice, the amount of empirical research on the subject has been fairly small, so far. In a recently published research Unerman & Zappettini (2014) examine materiality disclosures, in order to assess the previous research that analyses reports without considering materiality. They highlight the importance of materiality evaluations while interpreting the content of sustainability reports. Edgley, Jones & Atkins (2014) have investigated the subject from assurors’ point of view. Their research focus on how assurors make sense of materiality, and how it differs from financial audit materiality. In addition, there is research available on the optimal model to conduct a materiality analysis (see for example Hsu, Lee & Chao 2013).

A need for further research on materiality exists for several reasons. Firstly, the previous research confirms the centrality of the materiality concept and shows implications of the various unexplored ways of defining the concept and conducting the process of identifying the material issues. Secondly, the voluntary-based nature of sustainability reporting, the conflicting views of materiality and the different guidance options might create confusion among reporting entities. Thirdly, the concept is important as the outcome of the materiality process has crucial effect on whether the reporting is actually enhancing stakeholder accountability, and whether the report content consists of the most relevant impacts that the company has on sustainability. The risk that materiality process is utilized to narrow the

scope of the report, depending on the underlying motives for reporting, leads to a possibility that companies use the materiality process as a tool for excluding the issues that might be considered important from some of the stakeholders' point of view (Unerman & Zappettini 2014, 173). Thus, the validity of the report as a sustainability report can be questioned.

1.2 Purpose of the study

The purpose of this study is to increase understanding of materiality in the context of sustainability reporting. The objective is to examine the materiality concept and its application, as well as to explore the point of view through which something is considered as material.

The research questions are:

- 1) How is materiality defined and measured in sustainability reporting practices?*
- 2) How is materiality framed in sustainability reporting practices?*

In accordance with the first research question, this study examines materiality disclosures in sustainability reports to discuss the practices and patterns used to define and measure materiality. More insight is gained on the definition of materiality by describing the variety of ways in which materiality thresholds are determined. Additionally, by focusing on the definition of materiality, the purpose of materiality and its implications can also be explored. How materiality is measured, is approached by examining how the companies describe the process of identifying the material issues. The focus is directed to certain aspects of the materiality process such as identification, prioritization, and how stakeholder views are considered along the process. In order to support the analysis of empirical data, previous literature and guidance from the sustainability reporting standards (GRI, IIRC, AccountAbility and SASB) provide the background to the issue. The selected elements of

materiality are assessed through different sustainability reporting theory frameworks. Shortages in current sustainability reporting practices are revealed through this question.

In order to gain a deeper understanding of the subject, the second research question turns the focus into the shared, socially constructed frames of materiality. Materiality disclosures in sustainability reports are interpreted in order to identify the frames of materiality. The concept of a frame here refers to the interpretation schema (Goffman, 1974) of a certain issue. Frames create boundaries in perception, and limit attention to specific issues. In other words, different frames can offer distinctly different perceptions on the issue and how it is understood. (Creed et al. 2002, 36.) Here, the frames define the point of view through which something is considered material. The purpose of the frame analysis is not to compare the individual companies but to explore the shared, socially constructed frames, which are reflected in the materiality processes. The ideas and concepts based on theories related to sustainability reporting are interwoven in the analysis and identified frames are further assessed through the theoretical lens.

Analysing materiality from these two perspectives generates a more comprehensive understanding of the phenomenon. The first research question enables us to look at the individual elements of materiality, and draw conclusions on the current practises based on them. The second research question generates a broader level of understanding of the implications materiality disclosures have on sustainability reporting. Through these research questions conclusions can be drawn on how materiality reflects the understanding of the main idea of sustainability reporting, and its potential of increasing stakeholder accountability.

1.3 Research design

This study follows the typical nature of a qualitative research design, which can be defined as flexible (Ritchie & Lewis 2003, 3). The steps of the research process in qualitative research are tied to one another (Schreier 2012, 24). However, certain steps of the process can be identified. The steps taken during this research process are visualized in Figure 1. The boundaries between different steps are not fixed, but rather they overlap. Some of the steps

taken were clearer, whereas others required more adjustment and refinement along the process.

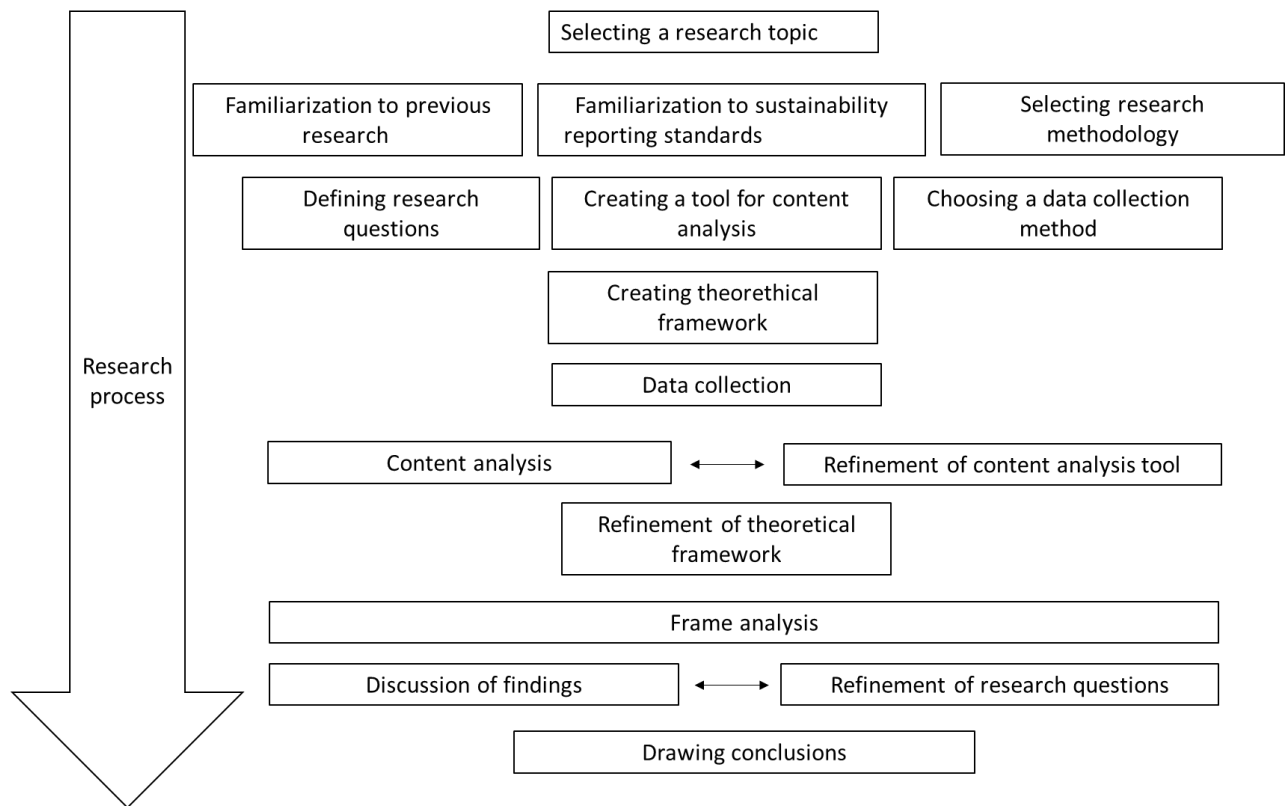


Figure 1 Research process

This research focuses on materiality in the context of sustainability reporting. The author was inspired by the centrality of the concept in the current sustainability reporting guidelines while working as a research intern at the Global Reporting Initiative. The topic was chosen after the internship in November 2014.

Narrowing the research topic to focus on the organizational point of view was a clear decision and confirmed at an early stage. Familiarization to previous literature confirmed that the organizational point of view has been missing from the existing research so far. Focus on the reported information published in sustainability reports was justified because reported information can be argued to represent the organization's official opinion. In addition, a sustainability report can also be seen as the only public source available to different

stakeholder groups. Sustainability reporting constructs social reality and the views on sustainability and corporate responsibility (Laine, 2009). In general, the basis of this research relies on the social constructionism, which views our understanding of reality as socially constructed (Berger & Luckmann 1966).

The theoretical framework required adjustment along the process as well. This study is limited to exploring the materiality concept in sustainability reporting practice. However, there is a range of ideas closely related to this concept. Therefore, the aim and purpose of the study enabled a range of perspectives to be used. Instead of focusing on the narrow scope, a more holistic approach was chosen to create the theoretical framework and to link different but interconnecting ideas together. The theoretical framework is constructed by seeing the sustainability reporting process as a four-stage process. These stages can be understood by asking certain questions, such as why the organization reports on sustainability, what is the motivation for disclosure? To whom, which stakeholder groups, is the report directed to? What information should be reported? How should the reports be compiled? (Deegan & Unerman 2011, 396 as cited in Rinaldi et al. 2014, 88.) When exploring the materiality concept, the most relevant question is related to the definition of the report content. However, to be able to understand the process on the report content level, also questions regarding the incentives and motivation behind the reporting as well as the audience of the report, are important questions to be addressed.

The methodological decisions required adjustment along the process. Content analysis is a widely adopted research method in sustainability reporting context. The method seemed adequate to explore materiality disclosures for the reason that it is generally considered as useful in exploring the content of specific disclosures. (Laine 2009, 33.) The familiarization with research phenomenon through existing literature and the guidance given by sustainability reporting standards resulted in selecting certain aspects of materiality to focus on. The theoretical views of these aspects gave more depth to the subject, which influenced the creation of a qualitative content analysis tool. (Miles & Huberman, 1994, 58 as cited in Saldana 2009, 120; Tuomi & Sarajärvi 2009, 113) However, while interpreting the data, some minor adjustments to the tool were necessary.

However, the results of the content analysis were not considered sufficient in order to create a comprehensive understanding of the subject, therefore another method, frame analysis was required. The methods are separate from each other and rely on the original data. The results, however support each other. By combining these two methods of analysis it is possible to scrutinize the phenomenon of materiality in greater detail, and to generate a more comprehensive understanding of the subject. Content analysis enables us to look at individual elements, while the frame analysis generates a broader level of understanding of the implications that materiality disclosures have on society.

Refinement of the research questions constantly took place during the study process, as the understanding of the subject increased and new ideas emerged. Following predefined and fixed research questions is associated to quantitative research tradition, whereas constant refinement is common to qualitative research. (Hirsjärvi et al. 2009, 125; 164) Constant evaluation and interpretation had a central role in shaping the research questions. The final form of the research questions took place while drawing conclusions from the key research findings.

1.4 Structure of the research report

This report consists of five chapters, which all serve different purposes. The first chapter introduces the research topic and its background and discusses the purpose of the research. The second chapter is devoted to the theoretical part of the study. The theoretical framework of the study consists of the sustainability reporting literature addressing the issues of sustainability, mandatory and voluntary reporting, accountability, motives for reporting and stakeholder engagement. The chapter ends with an overview of the concept of materiality based on previous literature and selected sustainability reporting standards GRI, AccountAbility, IIRC and SASB.

The next section, chapter three, presents the empirical part of the research. It begins by explaining the qualitative research strategy and proceeds by explaining the data collection

and analytical tools used in the research. Findings of the research are discussed in chapter four. First the content of the materiality disclosures is analyzed after which the frames of materiality are identified. The findings of these two analyses are intertwined and support each other by providing different angles for the subject.

Chapter five combines the discussion and conclusions of the research. The discussion about the theoretical contribution is structured by presenting three propositions, which aim to view the observations of this study in relation to the previous research. The conclusions are drawn from the arguments and the final stand of the study is stated. In addition, the chapter provides suggestions for the reporting organizations, and for the development of the reporting standards. Furthermore, the limitations and suggestions for further research are discussed.

2 MATERIALITY IN SUSTAINABILITY REPORTING

2.1 Sustainability reporting

2.1.1 Defining sustainability

Sustainability is an inherently normative and deeply contested concept, with much disagreement over what is to be sustained, for whom, how and who decides what is sustainable (Brown & Dillard 2014, 1123–1124; Springett 2013). Sustainable development is discussed in the programmes of governments, businesses, educational institutions and non-government organisations around the world (Fien, 2010). The most common and widely known definition of sustainable development comes from the World Commission on Environment and Development (WCED) report *Our Common Future* also called as *Brundtland Report* published in 1987: “... development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Originally sustainable development meant environmental sustainability in particular, but later on also social and economic aspects were included. These three aspects of sustainable development were named as the three pillars of sustainable development (Fien, 2010).

Sustainability can be viewed as weak or strong sustainability. The key question related to sustainable development is how the different aspects of sustainability are interrelated. The concepts of strong and weak sustainability represent two opposing ends in the dimension of sustainability (Gutes 1996, 147; Eriksson & Andersson 2010, 17). Strong sustainability regards the three pillars of sustainable development as irreplaceable, meaning that the depletion of natural resources cannot be replaced by investments in social wellbeing, for instance. Whereas weak sustainability considers the different pillars of sustainability as substitutable. According to weak sustainability, the total sum of wellbeing stays the same and is sustainable, if the decrease in other pillar is compensated with the increase in other resources (Gutes, M.C. 1996, 147.; Eriksson & Andersson 2010, 17).

The connection between corporate responsibility and sustainability is complex. The three pillars of sustainable development, environmental, social and economic, are also commonly seen as the dimensions of corporate responsibility, also called the Triple Bottom Line (Elkington 1997). This has resulted in the proliferation of new accounting and auditing measures, which has brought sustainability concerns into business planning and accounting practice. As sustainable development, also corporate responsibility as a concept has different meanings in different contexts (Carrol 1999). Companies' engagement to sustainable development can be seen as their (corporate) responsibility, and moreover in corporate speech these concepts are understood as interchangeable (Laine 2005, 403). However, many researchers have presented that the sustainability concept should not be used on an organizational level or in corporate speech. Even though many companies claim to address sustainability issues and publish sustainability reports, it may not have anything to do with sustainability or sustainable development. (Gray 2006, 2010; Milne et al. 2006, 2009; Tregidga & Milne 2006; as cited in Buhr et al. 2014, 52.)

Indeed, this argument seems accurate, however in practice the use of the term 'sustainability' is common when referring to reporting. According to KPMG's research 43% of the published reports are named sustainability reports. Other widely used titles are corporate social responsibility (CSR) reporting and corporate responsibility (CR) reporting. (KPMG 2013, 6.) In academic literature also terms such as social accounting, social and/or environmental reporting, sustainability accounting and many other combinations refer to the same phenomenon (Gray 2014, 3). This study uses the term 'sustainability reporting' when referring to the phenomenon, despite the notion that the current reporting practices may not be literally about sustainable development (Buhr et al. 2014, 52).

2.1.2 Sustainability standards

Many corporate activities have undeniably negative impacts on sustainability and organizations need to be held accountable for their activities that have an effect on sustainability (Bebbington et al 2014, 4; Gray 2014, 8–13). The problem is that there is a structural imbalance between the size and the power of corporations, especially between

MNCs (multinational corporations) and governments' capacity and/or willingness of to adequately regulate them (Vogel 2009, 73). As production and supply networks of global firms increasingly transcend national boundaries, regulation considering corporate sustainability issues also has to be international, and the role of intergovernmental organizations here is significant. The best known intergovernmental organizations making voluntary based regulatory standards in corporate responsibility are UN, OECD and ILO. Many of the soft-law arrangements like certifications, third party auditing and the sector-wide codes of conduct are based on these intergovernmental standards. In recent years, the range of different sustainability standards has increased significantly. Classification of these standards presented by Behnam and MacLean (2011, 48.) includes three categories: principle based standards (e.g. UN Global Compact), certification-based standards (e.g. SA8000) and reporting standards (e.g. GRI) (Vigneau 2014, 3). Financial indices (e.g. The Global 100, Dow Jones Sustainability Index) can be seen as an additional category (Slager et al. 2012 as cited in Vigneau 2014, 3). These standards as a form of self-regulation are replacing or supplementing national regulation and the regulatory gap between global markets (Sorsa 2011, 16; Vogel 2009).

Through these different self-regulative soft law arrangements companies can be seen both as a part of a problem and as a solution to major sustainability issues. As companies voluntarily engage in self-regulation and transparency exercises the new regime promotes greater accountability (Vigneau, 2014, 4). However, these soft regulations are often criticised of being less effective than legal requirements (Vogel, 2009).

Recently, the role of business has increased and the changed role is recognized among international co-operation. The results of the UN Rio +20 conference 'Future we want', among other outcomes highlighted the importance of sustainability reporting and the role of business in sustainable development (UN, Sustainable development, 2014). The new Sustainable Development Goals¹ (SDGs), launched in September 2015 are built upon the Millennium Development Goals² (MDGs), which were set to reduce poverty and hunger,

¹ Sustainable development goals, see UN: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

² Millenium development goals, see UNPD: http://www.fi.undp.org/content/finland/fi_fi/home/mdgoverview/

improve healthcare, education and equality and to ensure environmental sustainability by 2015. The work towards the MDGs was mainly considered the governments' responsibility, even though many of them apply directly or indirectly to businesses as well (Newell & Frunas 2007, as cited in Crane & Matten 2011). The development of the SDGs has acknowledged the role of the private sector businesses and investors from the start. Many of the proposed SDGs can be linked to businesses and corporate responsibility. Goal 12 ("Ensure sustainable consumption and production patterns"), and target 12.6 ("Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle") (UN, Sustainable development, 2015) are considered especially important for sustainability reporting.

2.1.3 Mandatory and voluntary reporting

Although sustainability reporting is mainly voluntary-based, there are also various approaches around the world to encourage sustainability reporting. Some countries have introduced mandatory reporting regulations and many stock exchanges require listed companies to report on ESG (environmental, social and governmental) issues (UNEP et al. 2013). Many approaches are based on a report-or-explain system, for example in Denmark the biggest companies are required either to report on the social, environmental and economic issues, or, if they do not, to explain why they do not do so in their annual reports. This has been an efficient approach since the reporting rate in Denmark is 99% (KPMG, 2013). Altogether, there are more than 180 different initiatives in sustainability reporting. Many initiatives combine mandatory and voluntary reporting requirements. (UNEP et al. 2013.) For instance, the EU has approved legislation that companies with over 500 employees need to report on sustainability issues. However, companies can disclose relevant information in the way that they consider the most useful (European Commission, 2014). Although, there are different initiatives on mandatory reporting, the requirements for the content of the sustainability report are not defined or remain only on a recommendation level (UNEP et al. 2013).

In the recent years, there has been a growing interest towards sustainability reporting among companies. In fact, sustainability reporting has become a standard business practice and the number of companies publishing a report is constantly growing. Already 93% out of the 250 world's largest global companies are reporting on sustainability (KPMG, 2013, 26). As the number of reporting organizations is increasing, also the range of different reporting standards and guidelines is expanding, increasing the pressure on companies to report on their social and environmental impacts.

The best known and widely used reporting standard is the Global Reporting Initiative (GRI) with 82% of the world's largest global companies referring to GRI in their sustainability reporting (KPMG 2013, 31). In many countries, in which GRI is the most commonly used reporting framework, governments are linking GRI to their reporting requirements, either as a recommendation or as a requirement. (KPMG 2013, 31.) Recently, the Integrated Reporting framework (IR) and the Sustainability Accounting Standards Board (SASB) have also received a lot of attention. AccountAbility is also one of the key standard setters in the field. The proliferation of standards has also been criticised for creating a certain amount of confusion among reporting entities (Waddock 2008, as cited in Vigneau 2014, 5). The consequences can lead to inconsistencies in the quality and comparability of reports (AccountAbility 2013, 7–8).

The willingness of organizations' to follow legal requirements or to adopt voluntary standards and different norms can be explained by institutional theory. According to institutional theory, organizational behaviour can be explained through a combination of increasingly shared values and a mimetic tendency to imitate others in the field. (Larranga-Conzalez 2007.) The institutional theory recognizes organizations and organizational fields. The organizational fields are socially constructed spaces that arise, for instance, from interactions, shared interests or common concerns. DiMaggio and Powell (1983) labelled institutionalisation as an isomorphism, in which organizations converge in their behaviours to give a field stability and eventually inertia. Institutionalism is presumed to occur in the following combinations: 1. Coercion (e.g. regulations, laws or market changes), 2. Mimetic mechanisms (e.g. the imitation of behaviours that appear to be successful), and 3. Normative

mechanisms (shared and converging values through, for example, education or professionalism). Adjusting this to sustainability reporting and materiality assessments, coercion means adopting GRI's or other standards approach to materiality by following the definition and suggested processes. As discussed earlier, the regulative environment in the sustainability reporting provides mainly suggestions instead of strict requirements in regard to reporting. Therefore, adopting standards represents this mechanism. The mimetic mechanism means that a company adopts the same approach to materiality as its peers. Companies listed in sustainability indices are commonly used as a source for benchmarking among the reporting companies (SustainAbility 2012, 7). Normative mechanisms reflect the effect that other entities in the field have. These entities can represent sustainability professionals and consultants, formal or informal networks, training sessions etc. that too, can provide guidance on how to define what matters most.

Regardless of the mechanisms behind the reasons for adopting sustainability reporting, studies have shown that companies fail to fulfil the requirements of the reporting standards. The problem with voluntary-based reporting standards is that there are no monitoring or sanction systems available. This also decreases the credibility and effect that these standards have. Voluntary-based sustainability reporting causes lack of credibility, reliability and quality in sustainability reports (Gray 2001). In addition, the companies' willingness to follow the guidelines is questioned as well (Sorsa 2011, 94). Indeed, according to research by UNEP/SustainAbility only a small number of companies are following the minimum reporting requirements about their social and environmental impacts (Buhr et al. 2014, 58–59).

The voluntary nature of sustainability reporting has also increased the need for assurance as a monitoring system (Buhr et al. 2014, 64). However, the quality of the assurance procedures varies (Buhr et al. 2014, 64). Due to the qualitative nature of sustainability reporting processes, such as involving stakeholders and embedding their opinions in the reporting process, the verification of assurance can never be highly reliable (Manetti & Becatti 2009, 291). To increase the credibility of the reports, a need to develop regulated reporting standards is also recognized (Laine 2009, 21–22).

2.1.4 Motives for reporting

At the organizational level, sustainability reporting motives are commonly seen to vary between purely economic reasoning to ethical reasoning (Rinaldi et al. 2014, 88). The reporting motives for ethical reasons such as being responsible, responsive and accountable to those who are impacted by the organization's activities are called *holistic*. Whereas the motives of using sustainability reporting as a tool for gaining or retaining support from stakeholders that are crucial for the organization's success are called *strategic*. (Rinaldi et al 2014, 88–89) In addition to these views, the traditional view that separates morality from economic activities argues that corporate responsibility has no role in business (Friedman, 1970; McGuire, 1969) and therefore sustainability reporting is an unnecessary exercise.

Following the holistic approach, sustainability reporting can be explained from accountability perspective. Accountability can be understood in many ways and the concept itself has different definitions (Sinclair 1995, Mäkelä 2015). In this study, accountability simply means “the duty to provide an account or reckoning of those actions for which one is held responsible” addressing the responsibility of the company to provide information for the broad range of stakeholders (Gray et al. 2014, 50). This perception addresses that the responsibility derives from the relationship and the nature of the relationships between different parties. The responsibility to offer accounts is based on the moral dimension of the relationship. Offering accounts means explaining oneself and one's actions. (Gray et al. 2014, 50–52.) In sustainability reporting context, the relationship is between the company and society, including the wide range of stakeholders. (Gray et al. 2014, 3.)

The accountability model is visualized in Figure 2. The relationship is formed based on the flows between the accountee and accountant. (Gray et al. 2014, 50–52.)

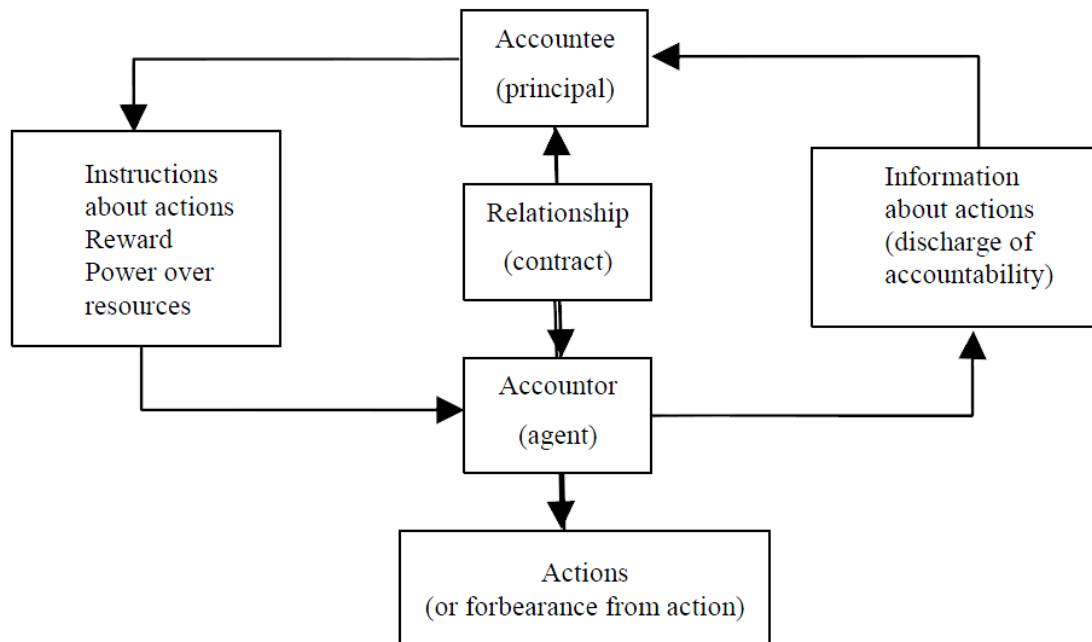


Figure 2 A simple model of accountability (Gray et al. 2014, 52)

The responsibility of what should be accounted for in sustainability reports is constantly changing, as it should reflect the demands of the broad range of stakeholders. To fulfil the accountability requirements, the report should contain information as much of what has not been done as what has been done in relation to sustainability. (Gray et al. 2014, 57–59.)

In principle, there are many positive effects that sustainability reporting is able to create. Accountability is a profoundly democratic notion and providing accounts through sustainability reporting is intended to advance greater democracy. By offering information on different aspects, the transparency of organizations and their role in society increases. Information not only influences the behaviour of the recipient of the information, but also the reporting organization. Moreover, transparency brings the organizations closer to the results of their actions, which consequently decreases the conflict of interest and increases the exercise of responsibility. Information also enables the creation of clearer regulations since the effects of economic actions become more visible. (Gray et al. 2014, 57–59.)

The holistic view acknowledges that the pursue of financial success is incompatible with social and environmental sustainability, as the generation of financial profits is almost always directly or indirectly related to negative social and environmental impacts (Gray 2006). However, the strategic view seems to be more common. According to strategic view, sustainability reporting is used as a strategic tool for reputation management in order to create more profit. Research shows that companies adopt reporting standards for reputation management and brand protection reasons (Brown et al. 2009). Firms might ceremonially adopt the use of these standards but fail to implement them correctly. Adopting standards provides legitimacy, but if there is a disconnection between adoption and implementation of standards, the firm is able to continue the business as usual. In which case, the symbolic use of standards is merely window dressing. (Behnam & McLean 2011, 46-47.) Studies criticize report content for rarely portraying a complete picture of the company's activities and impacts that it causes. (Gray et al 2014, 7.)

The tendency to emphasize positive issues over negative issues in reporting may be explained through legitimization strategies. (Gray 2014, 87.) Legitimation theory is based on the normative view that organizations can only continue to exist in the society in which they operate, if they are in line with the society's value system (Gray 2014, 87). However, major accidents and scandals such as pollution leaks or human rights violations may threaten the legitimacy. Under these circumstances, organization may employ instrumental legitimization strategies for countering the threat. Lindblom (1993) identifies four strategies: educating stakeholders, changing the stakeholders' perception of the issue, distracting attention away from the issue of concern or seeking to change external expectations. Sustainability reporting is seen as a tool for employing legitimization strategies.

The "business case" for sustainability emphasizes that sustainable business practices are creating financial value and competitive potential. The motivation is driven by economic, profit-oriented reasoning, which employs corporate responsibility actions to serve corporate self-interest (e.g Porter & Kramer 2006, Mc Williams and Siegel 2001). A number of researches show that in companies' disclosures sustainable development is presented without any conflict with profit maximisation (Laine 2009). This may have serious consequences on

reporting, such as excluding the impacts and effects on society and environment that have no linkage to financial profits. Thus, it is argued that in this approach sustainability means merely sustaining the financial profits. (Carbo et al. 2014, 179.)

2.1.5 Audience for the report

The target audience of the sustainability report depends directly on the motives for reporting (Rinaldi et al 2014, 89). The accountability model suggests that companies have the responsibility to provide information for those who have the right to it, in other words to all those that the organization's activities have an impact on (Gray et al. 2014, 7–8, 50.) Thus, organizations engaged in sustainability reporting on ethical reasons are likely to take into account a broader range of stakeholders than those who simply target the reporting to stakeholders, who are the most likely to have an impact on organization's ability to create profit. (Rinaldi et al. 2014, 90)

The most widely adopted definition of stakeholders is introduced by Freeman (1984, 46) as “Any group or individual who can affect or is affected by the achievement of an organization's objectives”. According to stakeholder view organization is dependent on its environment and stakeholders, therefore the attention should be removed from internal corporate functions, profit generation and benefits to shareholders towards more inclusive and collaborative stakeholder-centred view (Freeman 1984, 25).

There are broad or narrow definitions of stakeholders. The broad definition includes also remote groups and individuals, all whose experiences and interests are impacted on some level. The broad view takes into account also nature and future generations as stakeholders. The narrow view includes only groups or individuals that are more obvious when considering the impacts of an organization, or the stakeholders' ability to impact on the organization's success. These vary depending on the organization and its context. (Rinaldi et al. 2014, 86.)

Donaldson and Preston (1995) have presented three approaches to the stakeholder theory: the *descriptive*, *instrumental* and *normative* aspect. The descriptive approach reflects and

explains the relationship between the organization and its stakeholders. The instrumental approach views stakeholder management as a tool for achieving strategic objectives such as profit. The normative approach defines how the company should take stakeholders and their concerns into consideration. (Donaldson & Preston, 1995)

The normative approach connects stakeholder theory with the accountability model, as it perceives an organization to owe accountability to all its stakeholders. (Gray 2014, 85). This view is based on moral and ethics, which are strongly represented in the holistic view. However, there is an on-going discussion about shareholders being the primary target group of corporate sustainability disclosures. (IIRC 2013b, SASB 2014, for an overview see Laine, 2009, 25.) This also reflects the discussion of whether sustainability and corporate responsibility initiatives lead to positive financial results. In this rationale, companies are seen as primarily acting based on their own or shareholders' financial self-interest, and accordingly sustainable decisions need to be justified by financial reasons. (for an overview see Laine, 2009, 25.)

The instrumental approach to stakeholder theory can also be called the stakeholder management approach that is inherently organization-centred. Stakeholders are identified by the organization either in regard to their importance to the organization, or to the extent the organization believes the group needs to be managed in order to further the interests of the organization. Sharing information, also through sustainability reporting is a major tool for managing (or manipulating) the stakeholders in order to gain support and approval, or to distract their attention. (Mitchel et al. 1997 as cited in Gray 2014, 85)

These three approaches to stakeholder theory can also be referred to as stages, assuming that stakeholder involvement will develop from identification to stakeholder management and gradually to stakeholder engagement (Svendsen, 1998; Waddock, 2002, as cited in Manetti 2011, 110–111). In principle, stakeholder engagement is based on reciprocity, two-way interaction, mutual respect and dialogue. (Manetti 2011, 111). Research from Manetti (2011) shows that direct engagement with stakeholders in defining the report content is not common, and the level of stakeholder involvement remains only on an information gathering and

monitoring level. Manetti concludes that the present practice of stakeholder engagement in sustainability reporting context does not reach the ideal purpose of the stakeholder engagement.

Stakeholder engagement is crucial in regard to sustainability reporting, materiality and accountability, at least in theory. In the context of sustainability reporting, stakeholder engagement is used to determine which information and data should be included in the report. (Gray et al. 2014, 56.) It is an important element of the materiality principle also according to reporting standards (GRI, Accountability). Only when an organization knows which information and issues are important to stakeholders, is it able to produce a sustainability report and define the report content that addresses these issues (Rinaldi et al 2014, 90–91). However, it is argued that relatively few stakeholders have the impetus, knowledge and understanding to raise sustainability as an issue. It cannot be assumed that the sustainability concept and the elements of sustainability are familiar to most stakeholders. In addition, it cannot be assumed that stakeholders are aware of the influence of particular organizations on sustainability. Mostly the knowledge is based on information published by the organizations themselves. Moreover, the most important stakeholders in the case of sustainability are the future generations, and it is not apparent how these voices can be heard. (Gray et al. 2014, 56.)

Additionally, the manner the stakeholder engagement is carried out in the materiality process depends on how materiality is framed, perceived and understood. Frames have an effect on the materiality assessment processes and the methods used. The range of different methods generally adopted in the sustainability field range from participatory stakeholder engagement to traditional expert-analytic methods, which are based on positivist, quantitative assessment techniques. In many occasions, expert-analytic methods, such as cost-benefit analysis or risk assessment, are viewed as misleadingly apolitical and technical, capable of neutrally addressing a diverse range of issues and interests. (Brown & Dillard 2014, 1126.)

Participatory appraisals may help to broaden inputs by involving stakeholders, yet simultaneously close down the outcome by taking dominant frames for granted, or by

emphasizing a “consensus” that marginalizes minority views. Both the pressure to reach consensus and the unequal power-relations among stakeholders lead to biased results on what exactly is material. (Brown & Dillard 2014, 1123, 1128). Even though the selection of the method is crucial, there is nothing inherent about the methods as such, but those can be used to show diverse opinions or narrow down the point of view on the issue. (Leach et al. 2010, 101)

The way materiality is framed, perceived and understood affects the whole materiality process – which inputs are filtered through, what is highlighted, which questions are asked, and which outcomes are presented. The range of input defines how broad the exercise is in regard to the range of topics addressed, impacts considered, methods used, knowledge recognized, possibilities canvassed, options compared, uncertainties identified, values explored and perspectives engaged (Leach et al. 2010, 105). A narrow approach is instrumental to justify the outcomes that are aligned with the frame. Narrowing the outcomes of the process means “cutting through the messy diversity of interests and perspectives to develop a clear, authoritative, prescriptive recommendation to inform decisions.” This is accomplished by highlighting only a single or few of possible outcomes, which appears to be preferable under the particular frame that happens to be privileged. (Leach et al. 2010, 105.)

2.2 Materiality

2.2.1 Defining materiality

Materiality is a concept that can be applied in various contexts. A great deal of thinking, research and practices of sustainability reporting derives from financial reporting (Gray et al. 2014, 4). In the field on sustainability reporting, materiality is a relatively new concept (Unerman & Zappettini, 2014; Edgley et al. 2014, 12). However, the concept is more common in financial reporting which has influenced the adaptation of the concept into sustainability reporting. One of the definitions of materiality in the accounting field is following by International Accounting Standard’s Board (IASB) 2010:

Information is material if omitting it or misstating it could influence decisions that users make on the basis of financial information about a specific reporting entity. In other words, materiality is an entity-specific aspect of relevance based on the nature or magnitude, or both, of the items to which the information relates in the context of an individual entity's financial report. [The IASB] cannot specify a uniform quantitative threshold for materiality or predetermine what could be material in a particular situation. (Unerman & Zappettini 2014, 175)

The users of financial information are shareholders, and the purpose of the materiality concept is to guarantee that financial information does not include significant errors or omissions that could affect their decision-making. The purpose is to provide a true and fair view of the organization's financial situation through financial reporting. (Gray and Manson, 2008 as cited in Edgley 2013, 7.) Materiality is a concept that helps to distinct important information from insignificant immaterial information in regard to decision-making (Edgley 2014, 2). One of the important characteristics is that if a report contains a great deal of immaterial information, the quality of the report will be affected and material information will be lost. The communicative effectiveness of the report and the clarity of it will be diminished.

This applies to sustainability reporting as well and even more so, since sustainability reporting covers a broader range of issues (Unerman & Zappettini 2014, 175), and the audience consists of a broader group of stakeholders (Edgley et al. 2014, 16). Besides providing immaterial information, excluding material information is also an issue that concerns especially sustainability reporting, since the data provided is more complex (Edgley et al. 2014, 17). In sustainability reporting, materiality is not focused on errors or omissions of the data, but rather it is focused on what topics should be disclosed (GRI 2013, Accountability 2008). Instead of all the organizations reporting on the same wide range of issues, reports should cover the most important aspects of sustainability (GRI 2013).

The materiality concept in sustainability reporting is influenced by the traditional use of the concept in financial reporting among the assurers of sustainability reports. Their

understanding of materiality refers to the threshold for determining significant omissions or errors in information; thus, in an assurance process, materiality evaluations can be limited only in assuring for example GHG emissions or energy use and the fair presentation of these. Among assurers materiality is related to address concerns about the adequacy of disclosures and omissions in a way that it symbolizes telling the whole story about an issue. (Edgley et al. 2014, 15–17.) However, assurance providers do consider the broader audience of various stakeholders, and not just the shareholders as in financial reporting. Research also shows that assurers initially depend on the companies' own definition of materiality and description of the materiality process, and then based on that they can assess whether they accept it or not. (Edgley et al. 2014, 18.) This emphasizes the crucial role that reporting companies have in defining report content.

Materiality assessment in sustainability reporting is a process, which helps companies determine the material issues. It is seen as a filter or a hurdle that guides sustainability reports to focus on the issues that are believed to have the most significant impact on sustainability. Materiality assessment is therefore a process that involves the selection, inclusion and exclusion of information. (Unerman & Zappettini 2014, 176–178.) Materiality considers both the selection of topics to be reported on, and the level of detail on a certain topic. According to Unerman & Zappettini (2014, 183): "...materiality filters apply both in filtering broad topics or issues to be addressed in a sustainability report and in filtering which individual or collective incidents within any material broad topic area should be disclosed individually rather than as part of an aggregate disclosure." They point out that it is unreasonable to expect large companies to disclose all incidents that fall into a certain topic. (Unerman & Zappettini 2014, 183.)

However, materiality is context-specific concept and no set of rules can be set that could apply in all circumstances. Therefore, materiality appears to be more of an opinion rather than a mechanical process. (Gray and Manson, 2008 as cited in Edgley 2013, 7.) Thus, this malleable concept might create a possibility of misusing the concept to cut out the issues from a sustainability report that are not in line with business strategy (Unerman & Zappettini 2014, 173).

Even if the concept is fairly new in sustainability reporting, KPMG's research from 2013 shows the wide adaptation of the concept into sustainability reporting. Materiality is widely referred to as a guiding principle in sustainability reporting, with 79 per cent of G250 reports identifying issues that are material. However, KPMG's research shows that there is room for improvement in terms of explaining how material issues are identified. Out of the companies that identify material issues in their reports, 41 per cent did not explain the process. (KPMG 2013, 54–56.) According to KPMG (2013, 54-56) less than half of the companies that report on material issues clearly explain how stakeholder input is used to identify these issues. The majority offer only a partial explanation or no explanation at all.

2.2.2 Materiality principle according to GRI

GRI is the best known and mostly referred reporting standard. GRI promotes sustainability reporting as a means to help the organizations measure, understand and communicate their economic, environmental, social and governance impacts and performance. (GRI 2014b.) The first version of the Guidelines was launched in 2000, and the most recent version of the guidelines, representing the fourth generation G4 guidelines, was launched in 2013. The most recent version of the guidelines, G4, emphasizes the meaning of materiality in reporting, transforming it from a mere data gathering exercise to reporting that focuses only on the most important aspects of sustainability. (GRI, 2013a.)

The GRI has been previously criticized to provide legitimacy at a low cost, as the focus is on reporting certain issues rather than assessing their outcomes (Levy and Kaplan 2007, 438 as cited in Vigneau 2014, 5). Therefore, adopting the GRI framework might lead to unintended consequences, as reporting becomes the main focus of sustainability management. Rather than trying to assess and improve sustainability performance, the focus is on documenting the data. (Vigneau et al. 2014.) Although, according to GRI, the reporting framework as such can help to take the first steps towards a more sustainable economy, and is intended to increase transparency and stakeholder accountability through reporting (GRI 2014b). By

understanding their impact organizations are able to create change towards more sustainable business practices. (GRI 2014b.)

The most recent version of the guidelines, G4, emphasizes the meaning of materiality in reporting. GRI's definition of materiality principle:

The report should cover Aspects that:

- *Reflect the organization's significant economic, environmental and social impacts;*
or
- *Substantively influence the assessments and decisions of stakeholders*

Organizations are faced with a wide range of topics on which they could report. Relevant topics are those that may reasonably be considered important for reflecting the organization's economic, environmental and social impacts, or influencing the decisions of stakeholders, and, therefore, potentially merit inclusion in the report. Materiality is the threshold at which Aspects become sufficiently important that they should be reported. (GRI 2013 a, 17.)

GRI provides guidance on how to conduct the materiality assessment in practice. GRI's guidance helps companies report on the GRI aspects, but also recognizes the possibility of additional topics that might be regarded as material. In order to identify material aspects, a four-step process should be followed. These four steps include identification, prioritization, validation and review. (GRI 2013c, 33–39). As part of step one, a broad list of relevant issues should be considered. GRI suggests that these relevant issues can be derived from GRI aspects and from Sector specific guidance. Additional topics may be included in the analysis as well. In any case, the relevant issues should reflect the organization's significant economic, environmental and social impacts; or influence the assessments and decisions of stakeholders. (GRI 2013c 33–39.)

In step two, after considering a list of relevant topics, which might be covered in the report, the organization has to prioritize them. The organization should define thresholds (criteria)

that render an aspect material. The analysis of the two viewpoints of the materiality principle should be reflected in these thresholds. GRI provides a list of issues that can be considered when assessing the level of priority such as using social and environmental experts, reviewing sector specific issues, laws, regulations, international agreements, or voluntary agreement, stakeholder engagement and focusing on company specific priorities and risk and opportunity analysis. The thresholds and underlying criteria determined by the company should be reported as well. The prioritization step can be visualised in the materiality matrix (see Figure 3.) (GRI 2013c 33–39.)

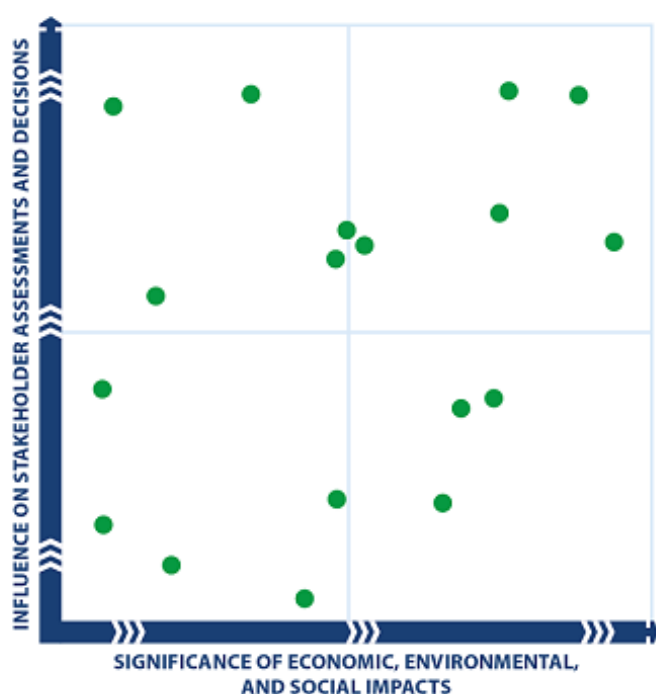


Figure 3 Materiality matrix according to GRI (GRI 2013c 33–39)

The third step is to validate the material aspects to ensure that they are reasonable. This may include approval from senior management or external stakeholders. However, the validation process should be documented. The final and fourth step includes reviewing the material aspects from the previous reporting period (if applicable). All these four steps in the materiality process refer to the stakeholder inclusiveness principle, which is a central element in the G4 Guidelines that emphasize the importance of engaging with stakeholders in order to identify the material aspects that are defining the report content. (GRI 2013b 33–39.)

2.2.3 AccountAbility's materiality framework

AccountAbility is a global organisation in the field of corporate responsibility and sustainable development that publishes research and standards, and provides strategic advisory services. AccountAbility has produced materiality guidance for both companies, assurers and stakeholders. In the AA1000 standards, materiality is portrayed as a stakeholder-orientated concept. It provides a framework for organisations to identify, prioritise and respond to its sustainability challenges. The materiality principle according to AA1000:

Materiality is determining the relevance and significance of an issue to an organisation and its stakeholders. A material issue is an issue that will influence the decisions, actions and performance of an organisation or its stakeholders. (AccountAbility 2008)

AccountAbility's materiality framework is based on a cycle of three broad stages: identify issues, prioritize, and review. It demonstrates how business strategy, reporting, engagement, and performance can be aligned with environmental, social, and governance issues. (AccountAbility 2013). The outcome of the materiality assessment determines the report content, promotes internal understanding of the link between sustainable development issues and business strategy, enables the development of the strategy, and addresses new business opportunities before they become business risks. (AccountAbility 2006, 2013)

In the first step the organization is expected to identify a broad list of issues that reflect direct short-term financial performance, the ability to deliver on strategy and policies, the best practice norms exhibited by peers, stakeholder behaviour and concerns, and societal norms. This should be done by drawing on internal and external sources of information, such as the monitoring of issues raised by stakeholders, the accumulation of evidence from different parts of the business, active stakeholder engagement focused on sustainability issues and utilizing existing research, standards and regulatory benchmarks. (AccountAbility 2006, 2013.)

The next step is to prioritise the issues. AccountAbility encourages companies to develop internal and external criteria for choosing the relevant issues. The criteria should be based on two dimensions: the importance to the business (the drivers of business strategy and performance) and the importance to the stakeholders. Also the thresholds, which divide the issues into different categories according to their level of materiality, should be determined. (AccountAbility 2006, 2013) The last step is to use internal and external advisory panels or the board to review the process to ensure that the outcome is credible and sound. (AccountAbility 2006, 2013)

AccountAbility advocated materiality before the principle was launched in GRI's guidelines first time in 2006. They were working with pioneering companies in this area, such as BP, which included materiality the matrix in 2004 in their sustainability reporting. This new tool developed by adopters was integrated into GRI guidelines, and as a consequence also other companies adopted the use of the materiality matrix. (Etzion & Ferraro 2010, 1103.) However, AccountAbility's most recent publication on materiality includes some critics of the materiality matrix. Matrices often provide a simplified picture of the process and fail to show the details, such as the priorities of different groups or changes in stakeholder views. (AccountAbility 2013, 10.)

2.2.4 Materiality for IR purposes

International Integrated Reporting Council IIRC has gained considerable amount of attention since its formation in 2010 (de Villiers et al. 2014, 1134). However, only few organizations are actually referring to IR framework in their reporting (KPMG 2013, 10). Opinions are divided among the academics, business people, public policymakers and civil society groups on whether integrated reporting is enhancing sustainability. Others view it as a potential tool for mainstreaming sustainability within companies and capital markets, while others see it as a too narrow approach to enhance sustainability, especially from the point of view of non-financial stakeholders. (KPMG 2013, Brown & Dillard 2014, 1121)

The IIRC proposes that organizations produce one report that draws together financial and non-financial information. The IR framework is built around six categories of capitals: financial, manufactured, intellectual, human, social and relationship and natural. Organizations should evaluate their outputs and activities, and how those create value on these different capitals. The value can increase, decrease or transform. (IIRC 2013, 11–12) The intended users of integrated reporting are the providers of financial capital as it supports their financial capital allocation. (IIRC 2013b, 1) Therefore, the focus is on the investors also in determining what matters most:

For the purposes of IR, a matter is material if it is of such relevance and importance that it could substantively influence the assessments of providers of financial capital with regard to the organization's ability to create value over the short, medium and long term. In determining whether or not a matter is material, senior management and those charged with governance should consider whether the matter substantively affects, or has the potential to substantively affect, the organization's strategy, its business model, or one or more of the capitals it uses or affects. (IIRC 2013b, 2.)

This means that the sustainability impacts become 'financially visible' (Kamp- Roelands 2013, 358 as cited in Brown & Dillard 2010, 1136). However, this approach leaves out the potential issues that do not affect the financial evaluations. Indeed, according to Brown & Dillard (2010, 1136) exclusion of legitimate interests that affect other stakeholders amounts to a form of institutional discrimination. However, the IR framework encourages companies to engage with other stakeholder groups as well. The stakeholder interests and concerns are used as a source to evaluate the effects on the capitals. (IIRC 2013b, 3.)

The materiality determination process according to IR framework consists of three elements: relevance, importance and prioritization. Relevance means identifying relevant matters for inclusion in the integrated report. This should be based on the potential value that the matter is able to create. Importance is evaluated either by the magnitude of the effect and/or the likelihood of occurrence. Prioritizing matters is the final step. Prioritization is the

responsibility of the senior management and those charged with governance to accept the filters and processes in place to identify the material matters. (IIRC 2013b, 3.)

2.2.5 SASB's industry-specific materiality map

Sustainability Accounting Standards Board (SASB) was incorporated in 2011. SASB is developed especially to help companies to disclose sustainability information required in the U.S. by SEC filings, such as the Form 10-K and 20-F. According to SASB there are a set of material issues that can be identified depending on the industry sector. The idea of determining material issues by industry is appealing as a standardised template for reporting as it would enable us to make comparisons between the companies within the same industry (Eccles et al. 2012).

Similarly to the IIRC, SASB also focuses on investors as the main user group. The negative social and environmental impacts of companies' operations present material costs to investors, companies, and society that are not currently accounted for in a company's financial reporting. (SASB 2014) From the investors' point of view the SASB approach appears to be successful in separating material from less material information for investment purposes. According to the recently published study, investments in material sustainability issues (determined by SASB) can be value-enhancing for shareholders. (Khan et al. 2015)

SASB materiality maps are based on a "three-lens" process in which SASB gathers *Evidence of Interest*, *Evidence of Financial Impact*, and, in some cases, *Forward-Looking Adjustment*. *Evidence of Interest* refers to five tests: financial risks, legal drivers, industry norms, stakeholder concerns and innovation opportunity. Data for this analysis is collected from different documents such as form 10-Ks, legal news, CSR reports, shareholder resolutions, media reports and innovation journals. The purpose is to collect the sustainability concerns of different stakeholders that investors care about and have the potential to impact corporate performance. *Evidence of financial impact* is evaluated through traditional corporate valuation parameters: i.e. profits (revenue and/or costs), assets and liabilities, and the cost of capital. *Forward-Looking Adjustment* means that in a small number of cases also issues that

may create positive or negative externalities that other stakeholders, industries, or generations are concerned with are considered; and/or if there is the potential for systemic disruption. (SASB 2014)

2.2.6 Summary of the materiality approaches

The contribution of this review of standards is to help understand the conflicting views of materiality, and different guidance options that might create confusion among reporting organizations. To summarize, these reporting standards have different perspectives on materiality, but also similarities in their approach. The similarities between the standards are shown in the steps that should be taken while conducting materiality analysis. The content is different but the process is somewhat similar, as it moves from identifying the issues to the prioritization phase and to the final selection of material issues. Table 1 summarizes the different approaches to materiality according to different standards. The focus is on 1) the definition of materiality, 2) the purpose of conducting materiality assessment, 3) the range of potentially material relevant issues that form the basis for the ranking and 4) the guidance given about the criteria/thresholds for prioritizing those issues.

Table 1 Approaches to materiality according to reporting standards

	GRI (2013c)	AccountAbility	IIRC	SASB
Definition	Material aspects reflect the organization's significant economic, environmental and social impacts; or substantively influence the assessments and decisions of stakeholders.	A material issue is an issue that will influence the decisions, actions and performance of an organisation or its stakeholders. Materiality determines the relevance and significance of an issue to an organisation and its stakeholders	A matter is material if it is of such relevance and importance that it could substantively influence the assessments of providers of financial capital with regard to the organization's ability to create value over the short, medium and long term.	Material information is sustainability information that is important to investors in making investment decisions. Materiality is defined on an industry-by-industry basis.
Purpose	The purpose of materiality assessment is to determine the sustainability report content.	Materiality guides business strategy and performance, stakeholder engagement, and reporting.	Materiality plays a crucial role in determining the matters to be included in an integrated report and ensuring conciseness of the report.	Materiality defines information to be included in S-K filings, disclosure requirements by U.S regulation, which sets the specific disclosure requirements for companies to describe known trends, demands, and uncertainties that have a material impact on financial results.
Relevant issues	Relevant issues can be derived from GRI Aspects and from Sector specific guidance or from other topics.	Relevant issues can be derived from business strategies, reports, risk register, company policies and commitments, best practice norms exhibited by peers and highlighted in relevant standards, stakeholder feedback and engagement, public debate in the media, campaigns, government, etc.	Relevant issues are derived from the organization's value drivers, matters identified during stakeholder analysis and engagement and from factors external to the organization (such as macro and micro economic changes, market forces, the speed and effect of technological changes, societal issues, environmental challenges, the legislative and regulatory environment, and matters identified by the organization's risk management process)	The possible range of issues for each industry sector starts with a universe of 30 sustainability issues organized under five broad dimensions: Environmental Capital, Social Capital, Human Capital, Business Model & Innovation, and Leadership & Governance.
Criteria/ Threshold	Materiality matrix: "Influence on stakeholder assessments and decisions" and "Significance of the organization's economic, environmental and social impacts". Analysis should be based on stakeholder engagement and impact analysis. The thresholds and underlying criteria based on these dimensions should be clearly defined, documented and communicated by the organization. This determination should involve discussion, qualitative analysis and quantitative assessment to understand how significant an aspect is.	Materiality matrix: "Internal" and "external". Companies should choose internal and external criteria to identify those issues relevant to drivers of business strategy and performances, and those issues, which are most important to the stakeholders. This may be a simple division into material/not material categories or it could be more sophisticated, indicating a scale of levels of materiality.	Materiality matrix: "Likelihood of occurrence and magnitude of the effect." The magnitude of the effect on the organization's ability to create value is determined by assessing the magnitude of the matter's effect on the organization's strategy, its business model and the different forms of capital, in the short, medium and long term.	The Materiality Map relies heavily on two types of evidence: "evidence of investor interest" (financial risks, legal drivers, industry norms, stakeholder concerns, innovation opportunity) and "evidence of financial impact" (revenues and costs, assets and liabilities, risk profile: cost of capital). A forward-looking adjustment (probability and magnitude, externalities) acknowledges emerging issues, which are not yet reflected in the evidence-based tests.

Based on this review differences can be found in how standards define certain information to be material in the first place. Standards share the common understanding of materiality as a tool for separating significant information from insignificant immaterial information. However, the definitions of what is considered as material information are divided. The most critical differences are related to whose point of view should be emphasized in selecting the most material issues. GRI emphasizes stakeholder perspective, and IIRC and SASB clearly focus on the shareholder point of view, whereas Accountability combines both perspectives.

Materiality assessment is conducted to serve different purposes. GRI emphasizes the selection of aspects to be reported on, AccountAbility's approach is designed mainly for strategy development, IR framework is for integrated reporting, and SASB is designed to fulfil disclosure requirements by U.S regulation.

Differences are also shown in the guidance that is provided on the issues that can be filtered through the materiality analysis. In principle, material information could be anything. Creating an understanding about the universe of relevant sustainability issues is the first step in the materiality analysis. GRI includes a list of aspects as a part of their reporting guidelines. Those aspects can be filtered through the materiality analysis in order to select the most material for a specific company. SASB, on the other hand, has created their materiality analysis for certain industries, and promotes the view that there are industry-specific reporting requirements. On the contrary, IIRC and AccountAbility refer to a wide range of external sources to help look for possible issues that could be material.

The standards suggest several methods that can be utilized along the materiality process. Stakeholder engagement is referred to as a necessary assessment method for materiality analysis either in the identification phase or as a part of prioritization criteria. GRI and AccountAbility have similar approaches in the guidance given about the criteria/thresholds for prioritizing and selecting material issues. Both emphasize that the company has the responsibility to report their internal criteria for the evaluation. However, the dimensions of what should be considered as material are different. GRI's dimensions are based on analysing the social, environmental and economic impacts and stakeholder views, and

AccountAbility's approach refers to analysing internal and external dimensions. IIRC guidance directs the attention on the likelihood and the magnitude of the impact on value creation for different capitals. SASB's approach provides industry specific material issues but explains the main criteria used in the selection of material issues. SASB's criteria are based on financial considerations. Table 1 summarizes the differences between the standards.

3 METHODOLOGY

3.1 Qualitative research strategy

This study is based on qualitative research tradition. Qualitative research is an interpretative approach attempted to create an understanding of the phenomenon. (Ritchie & Lewis 2003, 3). The purpose is to increase the understanding of materiality in the context of sustainability reporting. Both the empirical material and the outputs of the study are qualitative in nature. The outputs this research produces are detailed descriptions and understandings that offer interpretations of materiality. (Ritchie & Lewis 2003, 2–4.)

The analysis is divided into two separate phases. In the first phase, the purpose is to investigate certain aspects of materiality using qualitative content analysis as an analytical tool. The second phase explores the different frames that can be found in the materiality disclosures by using the frame analysis tool. These phases are independent of each other and are based on the companies' descriptions of materiality given in the sustainability reports, as well as the researcher's interpretations drawn from the empirical data. By combining these two analysis tools, it is possible to scrutinize the phenomenon of materiality in greater detail, and to generate a more comprehensive understanding of the subject. The first phase enables us to look at individual elements, while the second phase generates a broader level of understanding about the implications that materiality disclosures have on the society.

The interpretive nature of a qualitative research approach displays itself in the analysis. The inferences are drawn from the texts, more precisely from the materiality disclosures in sustainability reports, and as they are qualitative in nature, room for interpretation exists. (Schreir 2012, 24.)

3.2 Data collection

The empirical data consists of materiality disclosures collected from 29 sustainability reports, which follow GRI G4 Sustainability Reporting Guidelines. G4 is the most recent version of the GRI Guidelines, which highlights materiality as a central element in defining the report content (GRI, 2013a). The requirement to report on materiality and the process behind the materiality analysis is common for all the reporting organizations, regardless of the size or the sector in which they operate. The size and the sector potentially have an effect on the outcome of the process and the coverage of material aspects. However, the purpose of this research is not to evaluate whether the identified material aspects are indeed material, and therefore, the selection of the organizations was not based on these considerations.

The selected reporting organizations are listed in the 2015 Global 100 index. Global 100 index lists companies that are ranked as the most sustainable companies in the world. Shareholders and investors have become more aware of the sustainability issues, which has led to the proliferation of indices, and rating agencies requesting companies to disclose information on ESG (environmental, social and governance) issues. The annual amount of surveys that companies receive from rating agencies is large. There are more than 500 sustainability issues currently tracked by dozens of entities, relying on more than 2 000 indicators. It is questioned, whether the data collected is material and actually measuring sustainability performance. A company may be scored a sustainability leader by some ratings and a laggard by others, creating difficulties for users to understand the causes of such variability. (AccountAbility 2013, 6.) Even though the reliability of sustainability indices is questioned in general, companies are using indices to benchmark their performance. (SustainAbility 2012, 7) Therefore, this sample of companies included in the Global100 list can be considered as pioneers in sustainability. Exploring their interpretation of materiality is important as these companies might be considered as having an effect beyond their own organization, on the practices of other companies' sustainability reporting.

The total amount companies that had published a G4 report (out of the companies listed in Global 100) at the time of the data collection was conducted was 30, but one of the companies

was left out due to the reason that disclosures on materiality were not reported. The selected reporting organizations are publicly traded companies with more than 2 billion US dollars revenue in a year, as this is one of the requirements to being listed in the Global 100 index (Corporate Knights 2015). The reporting period varies from 2013 until 2014. The reports were found in GRI's database or in the company's webpages. The characteristics of the sample companies listed in Appendix 1 are collected from information published in the GRI database.

The data was collected from the sections in the chosen sustainability reports that discuss materiality, its definition, materiality analysis, and stakeholder engagement in the materiality process. The presumption is that, although companies are following G4 Guidelines, they do not necessarily follow the Materiality principle as defined by GRI. However, using the G4 Guidelines, they are likely to describe their approach in identifying material aspects. The G4 Guidelines was utilized in collecting relevant data.

G4 guidelines consists of *the General standard disclosures* and *the Specific standard disclosures*. Reporting on the Specific standard disclosures varies depending on what is material to a specific company. The specific standard disclosures consist of the wide range of indicators for range of sustainability aspects such as water usage, health and safety, human rights and an organization's impact on local communities. Organizations are required to report on the indicator(s) and management approaches that belong to the aspects that are identified as material. Additionally, GRI's sector-specific aspects and indicators, currently available for ten different sectors, should be considered. (GRI, 2013a)

The General standard disclosures include a set of reporting requirements that apply to all organizations, regardless of their materiality assessment. Along with other reporting requirements like strategic view, stakeholder engagement, governance, ethics and integrity, companies need to explain the materiality process, which is the basis for reporting on the Specific standard disclosures. (GRI, 2013a) More specifically, materiality and materiality analysis are discussed when organizations are reporting on G4-18 indicator. This indicator specifically requires reporting organizations to explain the process of defining report content,

and to explain how reporting principles are applied in defining report content. G4-19 indicator requires listing the identified material aspects. Reporting requirements focusing on stakeholder engagement are indicators from G4-24 to G4-27. To ensure that all sections in the reports that discuss the materiality are included in the research data, the search- tool is utilized using the key words ‘material’ and ‘content’. The sections were highlighted from the reports for further analysis. Materiality discussions in the assurance statements are left out as this study is limited only to the materiality definitions and descriptions of the materiality processes in the reports themselves.

3.3 Data analysis

3.3.1 Qualitative content analysis

Qualitative content analysis is a research method of subjective interpretation of the data through the systematic classification process of coding and identifying themes or patterns (Hsieh & Shannon 2005, 1278). Content analysis enables us to analyse written documents such as sustainability reports systematically. (Tuomi & Sarajärvi 2009, 103.) This method is suitable for the reason that the purpose of this research is to investigate the concept of materiality, and to identify practices and patterns used in materiality disclosures. Using this method, the phenomenon can be summarized and presented in a simple and clear manner, which enables us to make further conclusions about the subject (Tuomi & Sarajärvi 2009, 103).

In this research, the content analysis is carried out in the form of summative analysis employing an evaluative framework to guide the analysis. In the summative approach text is approached by using keywords or topics that are derived from certain interest or from previous literature. Here, the summative approach is used in order to create the evaluative framework to guide the content analysis. The evaluative framework is a tool that can be utilized in analysing the sustainability reporting data (see e.g. Owen & O’Dwyer 2004). In this research, the creation of the evaluative framework was initially informed by the literature

review and the guidance about materiality by sustainability reporting standards but later complemented and refined during the familiarization with the data.

The evaluative framework is outlined by answering specific questions on materiality:

Materiality definition:

How is something defined as material? How are the issues that matter the most defined?

Materiality assessment:

How does the company identify the set of relevant issues to be filtered through materiality analysis? Does the company report the full list of relevant issues? What is the prioritization criteria/threshold? Does the report include a materiality matrix?

Stakeholder engagement:

What kinds of stakeholder engagement activities are included in the materiality process? What are the identified stakeholder groups? Is diversity among stakeholders recognized or presented unequivocally?

Purpose of materiality analysis:

What is the purpose of defining what matters most? Does the report explicitly express that material issues define the report content? Are material issues GRI's aspects or other topics? Does the list of material issues correspond to the ones listed in the GRI Content Index?

Extracts from the materiality disclosures were categorized into a separate file and sorted by the company name. The main categories were created to accord with the evaluation framework outlined above. In summative manner, the categorized data was further analysed, summarized and grouped into the subcategories in order to understand the similarities and dissimilarities in the data (Tuomi & Sarajärvi 2009, 108-118). What is characteristic of the summative approach is that it enables us to identify and quantify explicit expressions but also

implicit meanings. This allows the interpretation of the context associated with the use of the expression. (Hsieh & Shannon 2005, 1283-1285.)

In qualitative research, the process of analysing the data is cyclical. Content analysis within this research is conducted in cycles. (Tuomi & Sarajärvi 2009, 113.) The analysis began with following the evaluative framework company by company manner. Simultaneously, category specific analysis was conducted and the main categories and derived subcategories were refined along the analysis. Texts were read multiple times and the cycles were repeated until a coherent view of the phenomenon was formed.

Following the evaluation framework the analysis began with collecting the extracts that discuss how something is defined as material in the first place. The extracts were first summarized and interpreted and then based on the similarities and dissimilarities categorized into four categories. The data was collected sustainability reports, which follow GRI's G4 Guidelines. Although the presumption was that companies do not necessarily follow GRI's guidance, one of the categories was named as 'GRI's definition' in order to highlight the compliance with the GRI's definition. Other categories were derived from the data. The number of companies using each definition were counted.

Second, the attention was directed to the materiality assessment process. The extracts that discuss the assessment process activities were collected. The attention was mainly focusing on information provided on how the companies build their understanding of what could be potentially material and how they describe the ranking of such information. All mentioned sources of information and stakeholder engagement activities were collected from the text. These were then listed and grouped into categories by similarity. The companies referring to each source of information were counted in order to identify how many companies mention each source. Analyzing the prioritization criteria of ranking material information, also the inclusion of a materiality matrix was noted. The information presented in the material matrices was analyzed in order to understand the purpose of such visualization. Extracts of the assessment process were summarized in order to interpret if the prioritization criteria were reported.

Following the evaluative framework, attention was directed to stakeholder engagement. Whether the stakeholder identification is reported, was noted. The listed stakeholder activities and the sources of information were further analyzed in order to understand how stakeholder views are included in the materiality process. This resulted in highlighting the activities that attempt to seek stakeholder views. These were further interpreted and categorized. The number of companies in these categories was counted and the combinations were noted. Finally, the analysis was conducted about how the views of the different stakeholders are presented. Whether the diversity among stakeholders is recognized or presented unequivocally was noted.

The final section of the evaluative framework focus on the purpose of conducting the materiality analysis. The extracts about the purpose were collected, summarized, interpreted and grouped into categories. The number of companies in each category was counted. Whether the materiality actually defines the report content was taken into consideration by looking at the list of material aspects and comparing them to the material aspects reported according to the GRI content index. Simultaneously, the naming of the identified material issues and correspondence to the GRI's aspects was observed. In addition, notes were taken about the structure of the sustainability reports and the linkage between the report and the materiality analysis. The findings of the qualitative content analysis are presented in chapter 4.1.

The summative approach to content analysis is typically limited to present basic insights into how words and expressions are used (Hsieh & Shannon 2005, 1285). In this research, the focus has been on certain aspects of materiality by comparing individual reports, finding similarities and dissimilarities and counting frequencies. However, analysing the broader implications in order to create a more comprehensive understanding of the subject was missing. Therefore, a different approach to analyse the data was required in order to create a broader understanding of materiality. The next chapter explains the way the analysis of the data through the frame analysis tool was conducted.

3.3.2 Frame analysis

The goal in frame analysis is to understand how certain idea elements are linked together into meaningful frames. An underlying assumption is that a frame is a necessary property of the text. Texts include elements such as discourses, systems of behaviour, principles and cultural narratives, which are held together with the unifying concept of a frame. (Creed et al 2002, 37.) Metaphors such as “picture frame” or “window frame” are used to help understand the concept. Frames, therefore, define the boundaries, and direct the attention to what is relevant in regard to a specific issue or situation. The frames determine the perspective while, at the same, limits the view to only a part of the complex world around us. (Creed et al. 2002, 36.)

Frame analysis in this current work is carried out in order to identify the frames of materiality in sustainability reports. The frames eventually define from which point of view something is considered material. The presumption is that the frames of materiality affect to the understanding of the main idea of sustainability reporting, and its potential of increasing stakeholder accountability. Identified frames also help to understand the different ways of seeing sustainability reporting and the companies’ responsibility towards sustainable development. It is interesting to look at materiality through the frame analysis, as materiality is a context-specific concept, and more of a matter of judgement. (Hicks 1964, Edgley 2013). This means that frames of materiality are likely to be diverse, conflicting and potentially overlapping.

The best known work of frame analysis is from Erwin Goffman (1974). He defines the concept of the frame as an interpretation schema defining the situation (Goffman 1974, 2). The definition of the situation is not a subjective interpretation of the situation, but instead frames are shared, socially constructed understandings of reality (Goffman 1974, 27 as cited in Puroila 2002, 35). Despite the widely referred status of Goffman’s work, he does not explain how to do the frame analysis explicitly. His work allows multiple interpretations that can also conflict one another. Using the frame analysis as a method either requires the researcher to create their own framework based on Goffman’s original texts or use a version presented in earlier research of the frame analysis (Puroila 2002, 17).

This research uses the approach presented by Creed et al. (2002), which promotes frame analysis as tool for the organizational research using socially responsible investment (SRI) as an example. Creed et al. (2002) use a framework called “signature matrix” from Gamson & Lasch (1983), and complement it with additional frame amplification elements to highlight the contradictions between the frames. The “signature matrix” consist of idea elements which are categorized as metaphors, exemplars, catchphrases, depictions, visual images, roots, consequences, and appeals to a principle. The first five elements are interpretative elements of the frame, whereas the last three are argumentative devices to justify and support the perspective of the frame. (Creed et al 2002, 40.) The frame amplification elements are presented as questions that help to address how frames serve to punctuate, elaborate and motivate the action around the given issue. The issue is punctuated in the text by defining what the problem is, and why it is important. The elaborative function addresses the question of responsibility for the issue. The third element is the motivation for the action (Snow & Benford 1988, 1992 as cited in Creed et al. 2002, 40).

Applying the frame analysis to the context of this research means looking at the disclosures on materiality to interpret what sort of frames can be identified from the data. The first step taken in the analysis is to identify the idea elements and the amplification elements from the collected data, and second step is to identify what frames are holding them together. This is accomplished by reading the texts multiple times, and attempting to understand which elements fit together and constitute one conjunctive frame. After the frames are identified from the data, additional elements are searched from the text to confirm the findings.

The data revealed that many overlapping, conflicting and different frames could be identified. For instance, the idea elements found in the materiality disclosures in one section clearly represent a particular frame, whereas in another section the idea elements can represent a conflicting frame. Therefore, the purpose of the frame analysis is not to compare how individual companies’ frame of materiality in their sustainability reporting. Instead, the purpose of the frame analysis is to explore the shared, socially constructed frames, regardless of the boundaries of individual reports. Constraining the reports to represent only one frame

would have meant neglecting idea elements that do not fit into the particular frame. Additionally it would have potentially meant biased and unilateral results.

Accordingly, the initial focus on collecting the idea elements and categorizing them into larger groups enabled the identification of different ways of framing the issue. However, it should be noted that this is only one way to conduct the analysis as different idea elements could be found and they could be categorized differently. Yet, the process was done in a structured manner, which meant reading the material through several times and continuously comparing the elements with each other to see how those differed or were supportive to each other. Category boundaries were refined, and if categories were adjusted the previously analysed reports were reread.

The findings of the frame analysis are presented in chapter 4.2. First, the identified frames are introduced one by one with discussing the main points of views of each frame. Then an overview of the frames is presented by summarizing how idea elements were categorized to build up five different frames. Table 2 presents the frame amplification elements and table 3 presents the “signature matrix”.

4 FINDINGS

4.1 The content of materiality disclosures

4.1.1 Materiality definitions

The findings reveal that a majority of the organizations in the sample define materiality as two-dimensional. The stakeholder point of view is repeatedly taken into consideration in defining what matters. However, there are variations in defining the other dimension. Most companies include the business point of view, by highlighting the interests of the company, either by evaluating how sustainability issues affect the business or by simply addressing the importance for the company. More unusual is to include the evaluations of the social, environmental, and economic impacts of the company. The findings revealed four different ways to define materiality: 1) GRI's definition, 2) importance to stakeholders and impact on business, 3) importance to stakeholders and importance to business, 4) GRI's definition + business considerations. Figure 4 shows the frequency of each category.

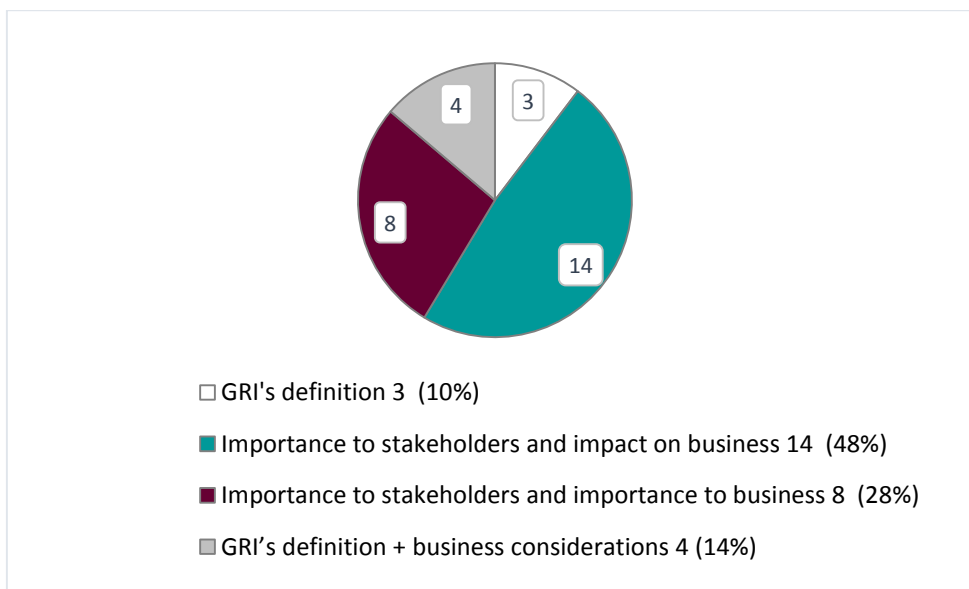


Figure 4 Materiality definitions

The data was collected from sustainability reports, which follow GRI's G4 Guidelines. However, only three of the sample reports define materiality according to GRI's definition: "The report should cover Aspects that: reflect the organization's significant economic, environmental and social impacts; or substantively influence the assessments and decisions of stakeholders (GRI 2013b, 17)". A majority of the companies define materiality based on: "importance to stakeholders and impact on business" (14 cases out of 29). For instance:

[The company] conducted a full Materiality Assessment to determine what citizenship and sustainability issues have the most impact on our company and are most important to key stakeholders (R1 2013, 48).

Materiality: Focusing on issues that impact long-term business growth and are of utmost importance to stakeholders (R2 2013, 10).

Another common (8 cases out of 29) way to define materiality is: "importance to stakeholders and importance to business". Common example of this category is:

Sustainability materiality: determining those issues that are relevant and significant to [The company] and our stakeholders (R12 2014).

In addition, there are four companies that use GRI's definition, but also add business considerations as a third dimension. One of the examples of this category:

Among the stakeholders' expectations, business performances and significant impacts on economy, society and environment are identified and reflected in management activities, to strengthen trust relationships with stakeholders and create new business opportunities. (R22 2013, 17.)

There are fundamental differences between these approaches and between the dimensions used in defining what is material. 'Impact on business' dimension turns the idea of the social, environmental and economic impacts of the company the other way around. Instead of

analyzing the impact that the company causes, the focus is on how company is affected by different sustainability related issues. In addition, it raises questions of whether reporting and measuring the impacts on the company through sustainability reporting is relevant in a first place. Measuring the impact on the company and reporting on it requires different metrics and indicators, as the conventional ones used in sustainability reporting measure the company's impacts and performance. Reporting on company's greenhouse gasses, for instance, becomes irrelevant if the focus is on how the emissions in the air affect the business.

The category 'importance to business' and 'importance to stakeholders' is characterized by using the variation of synonyms for the word 'material' such as relevance, significance, importance or substantial. As such, using this definition essentially means separating the internal and external points of view. The need for separating these two points of view implies that what is important for the business is not congruent with the stakeholder point of view. 'Importance to business' can simply mean importance in terms of revenue, whereas importance to stakeholders is most likely based on different criteria. According to this view, the company does not consist of a network of stakeholders instead; only those who profit from it represent the company.

The two-dimensional approach as such raises questions, also concerning GRI's approach. If all individuals or groups that are affected by the company, including nature and future generations are identified as stakeholders, the dimension of recognizing the social, environmental and economic impacts of the company already includes the stakeholder point of view. Adding the stakeholder dimension as a separate one seems unnecessary. Therefore, also the GRI's stakeholder dimension expressed as "substantively influence the assessments and decisions of stakeholders" only creates confusion.

4.1.2 Materiality assessment

The majority of the companies (27 out of 29 cases) describe how they identified the relevant issues that can be filtered through materiality analysis. Two of the sample companies have only a vague explanation without any concrete reference as to how they identified the

possible range of material issues. The others used a combination of different sources to look for possible issues that can be filtered through materiality analysis. Figure 5 shows different sources of information and the number of companies using those.

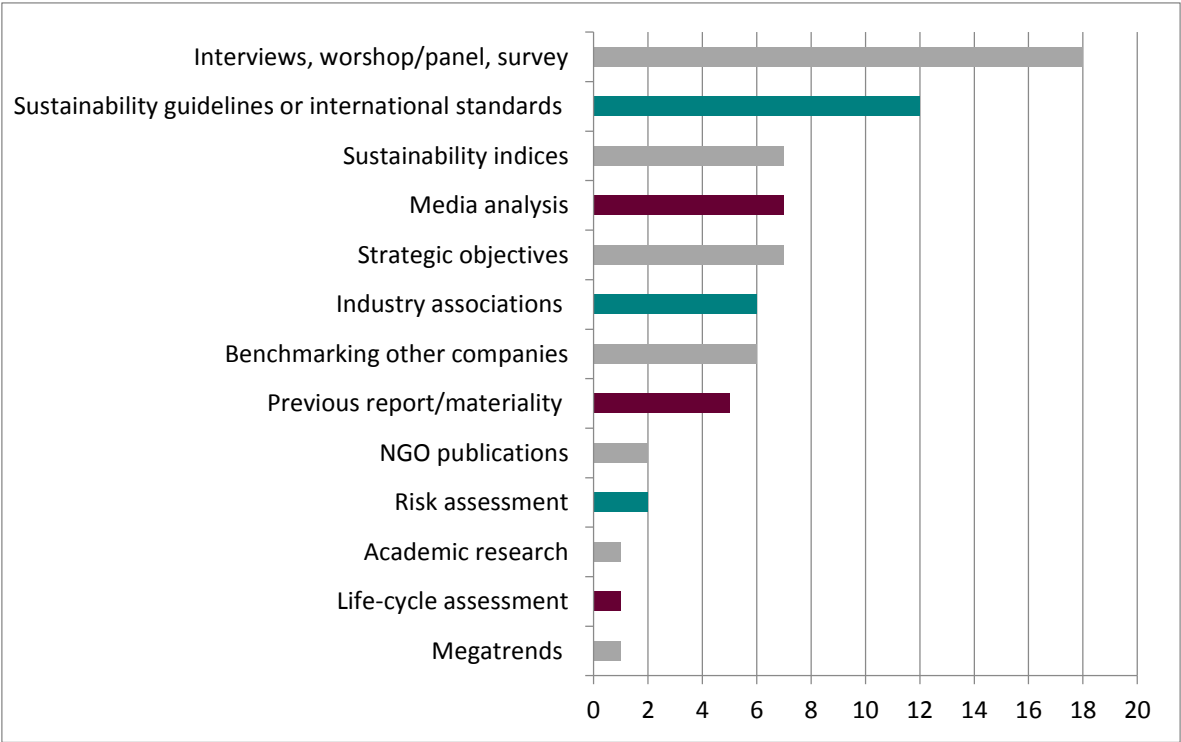


Figure 5 Sources to identify relevant issues

The level of detail in reporting varies. Some of the reports include an extensive list of naming different standards and engagement activities with different organizations, including memberships of different associations (see R9 2013, 21.) While, others exclude the detailed information and refer to international standards with general expressions such as: *Review of external standards* and *Participation in industry working groups*. (R19 2013, 21.)

The most common approach to present the prioritization of the issues is to visualize it in the form of materiality matrix. More than half of the sample companies uses some sort of matrix (Figure 6).

Materiality matrices show the dimensions used in the assessment and the level of importance of each issue. Instead of being used as a tool for prioritization, it is commonly used to present

the results of the materiality analysis. The matrices do not usually show the thresholds that would reveal what is included in the report and what is ranked as immaterial and therefore excluded. The matrices simply present how material issues are ranked against each other suggesting that they are not equally material and that some are more material than others. A typical example of a materiality matrix is shown in appendix 3.

The prioritization criteria of how exactly the issues were ranked based on their materiality is reported in less than half of the cases (Figure 7).

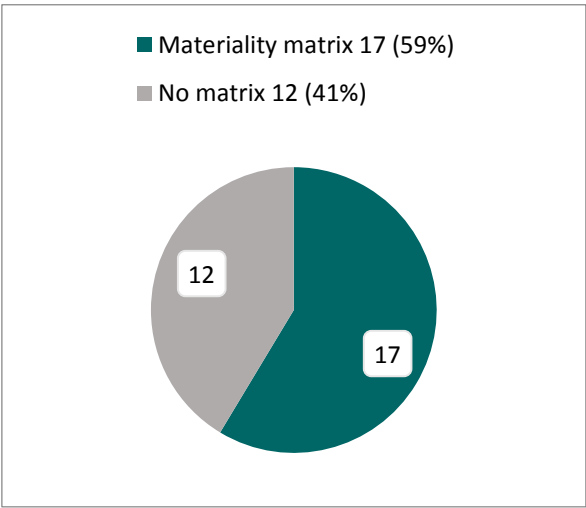


Figure 6 Usage of materiality matrix

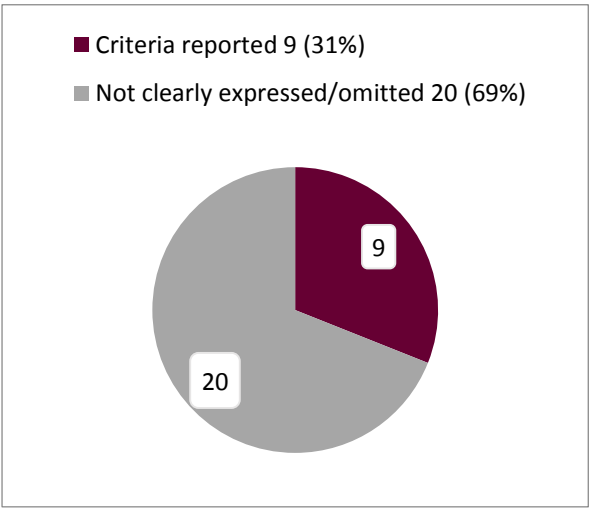


Figure 7 Prioritization criteria

In more than half of the cases (20 out of 29 cases) criteria is explained only briefly and without details, or left unmentioned. For instance, R3 utilizes prioritization criteria in their materiality assessment but does not disclose the criteria:

In order to identify material aspects, a set of decision criteria were set up for use in assessing the materiality of aspects with respect to the entire value chain. (R3 2014)

The companies that report the prioritization criteria (9 out of 29 cases), in most cases utilize the combination of qualitative and quantitative measures. One way to define the criteria is to break the dimensions down to categories and determine the weighting of each category. For instance, R24 follows the GRI definition on materiality and breaks the dimensions down to

categories using their own criteria and weighting. To determine *the influence on stakeholder assessment and decisions* they give scores based on:

Frequency of issues raised by stakeholders (weighted x3), frequency featured in media (weighted x1) and frequency raised in key sustainability benchmarks, rankings and indices (weighted x2) (R24 2013, 85–86).

To determine *the significance of economic, environmental and social impacts* scores are given based on:

Social and environmental impacts (weighted x1) and importance to business strategy (weighted x2) (R24 2013, 85–86).

To summarize, companies use a combination of sources in order to identify the material issues. However, in most cases, it remains unclear how exactly the issues are prioritized. References to certain activities or sources of information are inadequate for clarifying how the gathered information is processed. Disclosing the criteria for ranking is unusual. Instead, presenting a materiality matrix is more common. However, materiality matrix is not replacing the criteria, as it simply presents how the material issues are ranked against each other.

4.1.3 Stakeholder engagement

The findings show that all of the sample companies identify their stakeholders, and in some stage of the materiality analysis seek stakeholder views (see Figure 8). However there is dispersion between the companies as to how much effort is put on stakeholder engagement, what kind of engagement methods are used, and the level of detail in reporting on these.

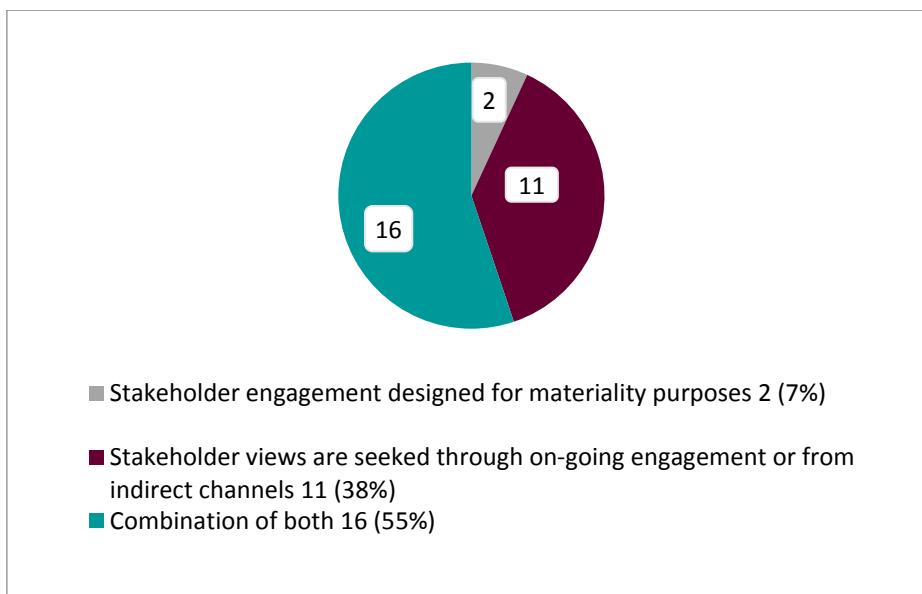


Figure 8 Stakeholder engagement methods

The data shows that more than half of the companies (18 out of 29 cases) have designed stakeholder engagement activities specifically for materiality purposes. These engagement activities include interviews, surveys, and stakeholder panels or materiality workshops. There are also examples of materiality assessment only with internal stakeholders such as employees or management. The purpose of engaging with internal stakeholders is to find out the views of external stakeholders. In these cases companies are relying on the internal stakeholders' awareness of the opinions of external stakeholders. Two of the companies rely entirely on the stakeholder engagement activities designed specifically for materiality purposes.

In addition to stakeholder engagement designed specifically for materiality purposes, most companies (16 out of 29 cases) combined also other methods. On-going stakeholder engagement practices include regular dialogue with stakeholders, membership of industry associations, participation to sustainability events and conferences. Additionally, feedback and inquiries received during the year are utilized to understand stakeholder views. Other methods to seek stakeholder views for the materiality analysis include media analysis, utilizing available research, market analysis and scanning trends. Many companies relied only on indirect or on-going engagement in their analysis (11 out of 29).

The results of the stakeholder engagement are commonly presented as unequivocally. One of the main features appears to be presenting stakeholder views unequivocally in the form of materiality matrix, thus implying a consensus among different stakeholder groups. This is the case in all of the sample companies that use the materiality matrix, except one. The only company that does not present stakeholder opinion in one dimension divides them into two dimensions: “internal” and “external” (R2, 2013). The different stakeholder groups to engage with are commonly mentioned. This implies, that the differences between the stakeholder groups, however, seem to be quite commonly recognized during stakeholder engagement and the materiality process, but not in presenting the results. Many of the reports include a section that focuses on reporting activities among different stakeholders, and there seems to be potential that this sort of approach could be used in materiality assessment as well. This current work focuses only on materiality disclosures; therefore the way in which organizations engage with their stakeholders is outside of the scope of this work.

One of the companies justify their presentation of the stakeholder views as one-dimensional in the materiality matrix as a deliberate choice:

The level of concern has been assessed as a whole, which is why the weightings of the various areas by individual stakeholders are not reflected in the matrix. (R3 2014)

The sample includes divergent approaches as well. One of the companies (R1) has solved this problem by presenting another figure next to the materiality matrix that shows the differences between stakeholder groups (see Appendix 3.). Another company notices the arbitrary nature of the matrices:

[The company] does not rank the individual themes identified in terms of importance, as [the company] is of the opinion that doing so defies the purpose of a comprehensive materiality assessment. Such ranking would be arbitrary; all themes mentioned are important to [the company] and its business. (R28 2013, 14.)

To summarize, all of the sample companies seek stakeholder views in one way or another. However, the findings show that divergent stakeholder opinions are not discussed in presenting the results. Instead, gathered stakeholder views are commonly presented unequivocally in the form of a materiality matrix.

4.1.4 Purpose of materiality analysis

The reported purpose of the materiality analysis is in most cases to define the report content and/or to utilize it for CSR management and strategic purposes (24 cases out of 29). Figure 9 presents a summary of the reported purposes of conducting a materiality assessment.

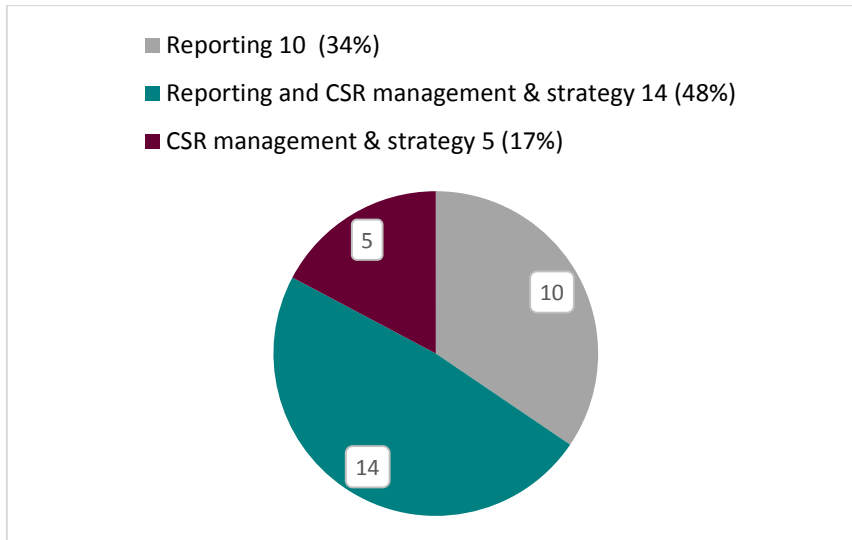


Figure 9 Reported purpose of materiality assessment

CSR management & strategy includes issues such as:

The materiality assessment guides [the company's] corporate responsibility and stakeholder work and defines activities for meeting stakeholder expectations (R3 2013).

We develop our policies and programs based on our findings (R9 2013, 197).

This analysis forms a basis for our sustainability strategy and related target setting (R10 2013).

In addition to these purposes, seldom mentioned objectives for materiality analysis are encouraging innovation, product development, business strategy, stakeholder communication and stakeholder engagement, and input for risk & opportunity analysis.

Regardless of the fact that most of the companies explicitly state that material issues define the report content (24 cases out of 29), in many cases materiality analysis seems to be a separate activity without connection to the report content. In most cases there is a disconnection between the issues ranked in the analysis phase and the actual reported issues listed in the content index. As Figure 10 demonstrates only in one third of the companies (10 out of 29) the identified issues are the same issues that are reported according to the GRI content index. In the remaining cases, the GRI Content Index includes a set of reported aspects that are not included in the materiality analysis. In other words, they are not identified as material. In these cases, it remains unclear how those aspects were selected for reporting. There are also examples, where a certain number of issues are identified as material but still every GRI aspect is reported. Accordingly, it seems that the reported issues are not determined by what is material.

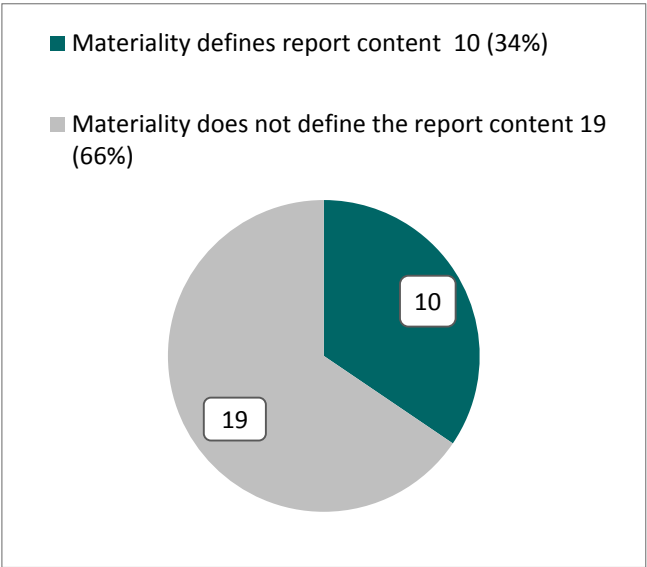


Figure 10 Connection between materiality analysis and content index

A common feature seems to be that the issues defined as material are not derived from GRI's list of aspects. Out of the 29 cases, 27 identify other topics, or mix GRI aspects with other topics. However, other topics may not be totally additional, as in many cases the naming of topics is only slightly different than the naming GRI uses. Some companies, however, have solved this by presenting the connection between the other topics and GRI aspects.

An example of connecting identified material issues and GRI aspects can be found in R20 (see Appendix 2):

For the specific standard disclosures, we chose to construct our index starting with our material issues, as this best reflects our approach to sustainability. We then mapped the relevant G4 aspects as closely as possible to our material issues. (R20 2013/14, 1.)

Another example comes from R22. Based on the identified issues, they establish nine CSR strategies with 28 improvement tasks that represent their material issues. GRI aspects are categorized under these nine CSR strategies (see Appendix 2).

Materiality analysis can also be an activity that is not necessarily included in the sustainability report, as some of the sample companies are launching a separate document presenting materiality analysis and a separate sustainability report. For instance, R5 uses this approach. The company publishes two separate reports on their webpage: a GRI report (237 pages) that includes all the GRI indicators and reporting requirements and separate Sustainable Development Report (48 pages). The content of the Sustainable Development Report is different from the GRI report and it doesn't include materiality analysis at all. It seems that the GRI report is targeted to professionals as it is published in a section called *Expert section*. (R5, 2014.)

To summarize, based on the findings the sample companies acknowledge that the purpose of conducting a materiality assessment is to define the sustainability report content. However, the analysis shows that in the large number of cases the reported issues are not determined by what is material. Common feature is that there is inconsistency between the material issues

and reported issues. There are also cases in which materiality assessment is published apart from the sustainability report. Other common purposes for the materiality assessment that are found through the analysis are related to corporate responsibility management and/or sustainability strategy.

4.2 Identified frames of materiality

4.2.1 Risk management frame

The risk management frame considers sustainability issues as something posing an external threat to the company. Instead of the impacts that the company may have on the environment and society, this frame worries about how the business will be affected by the major global sustainability challenges. Therefore, the motive to conduct a materiality analysis is to raise awareness of the issues that impact the business. The company is not responsible for the sustainability issues that they are confronting, as the threat is coming from outside. A common approach is to look at the megatrends or common internationally recognized issues and discuss how these pose a threat to the company. Water scarcity, for instance, is seen as a threat that the company has to cope with, instead of analysing the company's impacts on the water scarcity. The motivation to take action to identify the most material threats comes from the fear of negative impacts on business.

The risk management frame represents the view of seeing the materiality exercise as something that can be accurately measured and managed. The responsibility of the company means accurate measurement and awareness of the risks. It is characterized by taking a technical approach, and uses technical elements such as graphs, matrices, detailed process descriptions that simplify the materiality process. One of the most common technical tools is a materiality matrix. The purpose of presenting the sustainability issues in a two-dimensional ranking both neglect the differences between stakeholders views, and create an illusion of careful consideration and technicality. The illusory nature of materiality matrix is represented in case R6 (see Appendix 4). The prioritization criteria are included in the matrix, which helps the reader to understand the basis for the ranking. However, the matrix does not include

any of the issues that are selected as material, but instead it shows in which level of importance are the independently assured issues. The reader does not see ranking or the amended order of sustainability issues. Another example of a technical approach is seen in case R4, in which materiality matrix is a three-dimensional image (see Appendix 4). However, it is impossible to create a full understanding about the information it contains. These kinds of matrices seem to be used as tools to create the impression of a rigorous assessment process.

An example of the approach where stakeholders are used as a source of information to protect the business:

What we learn from our stakeholders helps us better understand the issues that matter most and cross-reference them with the material issues and trends we know are impacting our business. This approach ensures we can better identify the emerging societal, economic, demographic and business trends affecting our business and which ultimately may influence our long-term prosperity. (R12 2014)

To summarize, the risk management frame defines the materiality from a business point of view, which considers sustainability topics as a threat that company needs to cope with. According to the frame, the responsibility of the company is not to measure and manage its own impacts on the society, but instead its responsibility is to measure and manage the external risks. The company is both the protector of the business operations and the shareholder value, but it also positions itself as a victim in regard to the sustainability challenges facing the planet and society. The frame neglects the discussion about the impacts that the company has on social, economic and environmental sustainability and on its stakeholders. This frame also takes stakeholder concerns into consideration. Based on stakeholder views, the company is aware of the issues that it needs to be protected from. Nonetheless, the impacts on stakeholders are not considered.

4.2.2 Business opportunity frame

The business opportunity frame focuses on the positive sides of sustainability. Sustainability challenges are seen as business opportunities. In this frame, the identification of material issues is seen important for the continuous success of the company. The company is responsible for its shareholders, and benefits from the involvement of other stakeholders in identifying business opportunities. Thus, the main motivation to conduct a materiality assessment is based on the potential of creating profit.

This approach excludes the negative issues and all the sustainability impacts that are not connected with the revenue. In this frame, business is seen as a solution that improves sustainability, for example through making innovations that have a positive impact on the environment and society. The company's negative impacts are left out of the discussion, meaning that they cannot be considered material. For instance, the following extract from R16 shows how materiality is framed using this approach:

- - the parameters of our 2013 Corporate Sustainability Report have been established based on a strategic assessment of the issues that our stakeholders care most about, are of greatest relevance to our business strategy and impact our ability to deliver on our promise to make the world cleaner, safer and healthier. (R16 2013, 14.)

As the risk management frame is worried about the negative impacts on business, the business opportunity frame focuses on the opportunities that sustainability issues might represent. In this frame, the problems that affect sustainable development become opportunities. This could lead to a way of thinking in which environmental and social problems are seen in a positive light, as opportunities to create more profit and new business opportunities. The roots for this frame can be linked to the shared value and CSR thinking that acknowledges the connection between adopting sustainable solutions and business success.

Stakeholder views inside this frame are used as a source to identify business opportunities. Willingness to find out what stakeholders consider important makes sense, as there is a demand for creating business solutions in these areas. These extracts represent this frame:

We continuously follow external trends to determine the issues most relevant for our company and those where we can make a positive contribution to society at large. (R9 2013, 197.)

We seek to engage stakeholders across all our activities to gain their feedback on specific areas of our business. Working in partnerships is crucial in delivering on our vision to make the world healthier and more sustainable through innovation. (R9 2013, 197.)

An example of the typical image for this frame is presented in Appendix 5. The company explains:

Our continuous efforts reflect that sustainability is a strong driver for innovation and customer satisfaction, ensuring long-term business growth. (R18 2013, 7.)

And continues:

[The company] is interested in the topics that impact our future business success and that are relevant for our stakeholders. In order to gain a better understanding of topics relevant to both our business and our stakeholders, [the company] conducted a materiality analysis. The materiality index takes into account input from our broad range of stakeholders. (R18 2013, 7.)

To summarize, the business opportunity -frame defines materiality from the business point of view, and regards sustainability topics as business opportunities to create more long-term growth. The environmental and social problems are seen as inevitable. The responsibility of the company is to focus on the positive impacts, and innovate new ones in order to ensure

the shareholders that the company is able to make money from the inevitable social and environmental problems. The priority is not to measure and manage its own negative impacts on society. The other stakeholder groups are seen as a source for innovation. The company benefits from stakeholder involvement in identifying business opportunities. The company does not cause environmental and social problems, instead it positions itself as a hero presenting solutions for the sustainability challenges facing the planet and society.

4.2.3 Accountability frame

The accountability frame focuses on the social, environmental and economic impacts caused by the company's operations. According to this frame, conducting a materiality analysis is important because the company is accountable for its impacts to a wide range of stakeholders. The company's responsibility extends to measuring and managing its economic, environmental and social impacts, regardless of their connection to financial success. Moreover, improved sustainability performance and sustainability policies are the goal. Thus, the motivation to conduct a materiality analysis relates to the ability to recognize the impacts in order to manage them.

This frame is represented in the following examples that simply address the purpose of the report:

Provides an account of [the company's] sustainability performance as well as its strategies and practices, while highlighting the economic, environmental, and social impacts of the company's activities and developments across its properties in Singapore and overseas. (R2 2013, 1.)

The report describes our material impacts on the environment, people and society, what we did during the year to manage these impacts and what progress we made. (R8 2013, 55.)

This frame also supports the view that the company's impacts can be evaluated based on how stakeholders are impacted. This extract also shows that instead of identifying the material issues, aspects or topics, the term 'material impacts' is used, which automatically directs the attention to impacts of the company by narrowing the frame and excluding other material considerations:

How our operations impact stakeholders, what our key stakeholders expect from us and how they assess [the company's] performance in meeting those expectations help us to identify and prioritise our most material impacts. (R8 2013, 58.)

To summarize, the accountability frame defines materiality from the point of view that supports stakeholder accountability. This frame recognizes that the business operations may cause impacts that are a part of the environmental and social problems. The responsibility of the company is to be aware of its own impacts, transparently report on them, and to develop policies and management approaches to address these impacts. Materiality means identifying the most significant impacts regardless of their connection to business success. The company positions itself as responsible and accountable for its impacts to a wide range of stakeholders.

4.2.4 Unified strategy frame

The unified strategy frame refers to a predefined sustainability strategy and its salience as a defining element of materiality. The purpose of the materiality assessment is to show the elements of the strategy and rearrange them to complete the materiality exercise. The materiality assessment remains in line with the predefined strategy and does not require new resources for implementation. Materiality is integrated into other sustainability communication that is consistent with the unique approach. Without considering any new perspectives, this approach relies on the assumption that this own unique, predefined approach will bring competitive advantage, as it is not mixed with any other sustainability views. Thus, this frame refers to differentiation strategy. However, ultimately, materiality assessment remains as a pointless element in the report. Materiality is an element required to

be included in reporting, but as such brings nothing new to the reporting or sustainability strategy. Examples of this frame are represented in the following extracts:

The themes of the report are based on the corresponding sections of the responsibility programme. (R3 2014.)

The choice of aspects and indicators used reflect the environmental, social and societal policy of [the company] ... (R5 2014, 25.)

We have used our new Plan A commitments to structure this report (R6 2014, 33.) This most recent version of Plan A is launched in this report and was used to determine the materiality of the issues it covers. (R6 2014, 34.)

The content of this Report is generally limited to information that is relevant and material to the overall support of [the company's] Global Citizenship Initiative (GC1015), which was established in 2009. We prioritize information concerning discrete projects according to the ability of each project to help [the company] achieve the goals set out in the GC1015. (R11 2013, 9)

To summarize, the way to approach materiality and sustainability as a whole is based on a unique sustainability strategy, which has to be integrated in all areas. The purpose of the sustainability reporting is then to simply communicate the strategy. The most significant impacts that the company has on sustainability are not the basis of this approach. The company positions itself as different and unique in its approach and chooses not to include the elements of the materiality (or anything else) that do not support the chosen sustainability strategy.

4.2.5 Stakeholder interest frame

Stakeholders are given special attention in this frame. Materiality assessment is used as a tool to identify the issues that stakeholders are interested in. The company relies on stakeholder

views and their opinion on what are the most material issues. The importance of conducting a materiality assessment is to be able to answer the stakeholder concerns through reporting, and ultimately to gain legitimacy. The company is seen as responsible for reporting on issues that stakeholders are interested in. Thus, framing the issue this way excludes the consideration of issues that stakeholders are not aware of.

The company can only choose to report on issues that stakeholders they choose to engage with are concerned about. This way the company outsources the responsibility of defining what matters most to the stakeholders. Alternatively, the company can use legitimization strategies to tell their own side of the story and to explain the issues that stakeholders are interested in. The following extracts represent this approach:

Adopting a matrix based approach, materiality was assessed based on two criteria, namely, the importance of an issue to both internal and external stakeholders. (R2 2013, 10.)

The level of engagement of our various stakeholders is based on the impact that information provided in this Report would have on the relevant stakeholder group. (R11 2013, 9)

The information from our stakeholder engagement provides essential input to our annual 'materiality assessment' which guides our focus for reporting and informs our strategic approach. (R12 2014)

To summarize, the stakeholder interest -frame defines materiality from the stakeholder point of view that is used as the basis for reporting. The responsibility of the company is limited to the sustainability issues that stakeholders are aware of. There is no need to pay attention to the issues that stakeholders are not aware of. The impacts of the company are neglected from this approach. Recognizing the issues that the stakeholders are concerned about gives the company the opportunity to use legitimization strategies and to tell their side of the story. The

company positions itself as a considerate and collaborative actor that is attentive to stakeholder concerns.

4.2.6 Synthesis of the frames

A synthesis of the identified frames is presented by summarizing how idea elements were categorized to build up five different frames (Table 2).

Table 2 Identified frames

FRAME	Risk management frame	Business opportunity frame	Accountability frame	Unified strategy frame	Stakeholder interest frame
Punctuation	Sustainability issues pose a threat to a company and impact the business	Sustainability issues are potential business opportunities for the continuous success of the company	The company is accountable for impacts it causes on the society and environment	Sustainability issues should fit to company's existing strategy in order to show support to internal existing policies	Sustainability issues that stakeholders are interested in are material in order to be able to answer to stakeholder concerns and gain legitimacy
Elaboration	The threat comes from the outside. The company is not responsible on the sustainability issues that they are confronting. Responsibility means accurate measurement and awareness of the risks	The company is responsible for its shareholders and benefits from stakeholder involvement to identify business opportunities.	The company is responsible for its impacts on the society and environment. Improved sustainability performance and policies are the goal.	Reliance on own strategy. The responsibility is to create the company's own sustainability strategy, which defines what matters. The materiality exercise is another reporting requirement that needs to be fulfilled.	The company is responsible for reporting on issues that stakeholders are interested in. Stakeholders are responsible for defining what matters most.
Motivation	Fear of the negative impacts on business	Business-case motivation	To identify the impacts and manage them.	To support the existing strategy	To gain legitimacy
Metaphor	Technicality, control, structured process, rigorous methodology, risk and opportunity	Shared value, business solving sustainability challenges, creating only positive impacts	CSR, Stakeholder accountability, Sustainable development	Unique strategy leading the sustainability work	Caring about stakeholder opinions, willingness to listen and respond
Exemplar	Risk Management	Innovation through crowdsourcing	Impact Analysis	Integrated marketing strategy	Outsourcing
Catchphrase	"Impact on Business" "effect on business" "managing sustainability" "identify critical risks and opportunities"	"Continued success of a company" "Issues that have direct financial impact"	"Significant economic, environmental and social impacts" "stakeholder accountability" "the effect on society"	"Sustainability program" "sustainability strategy"	"Stakeholder interest" "stakeholder concern" "Stakeholder awareness"
Depictions	The company is not the one causing the impacts on sustainability, but instead, in order to be a responsible actor, it has to measure the impact on business	The purpose is to identify possible business opportunities in sustainability issues and connect these to business strategy.	The purpose of sustainability reporting is to provide account for stakeholders by reporting on the most significant impacts that the company has.	To use the existing elements from the sustainability strategy and rearranging them to complete the materiality exercise. Unwillingness to change the company's own unique approach.	The company reports only on issues that stakeholders are aware of to gain legitimacy and improve reputation.
Visual images	Presenting graphs and matrices portraying an image of a technical exercise where each sustainability issue can be measured accurately enough to rank them into a matrix.	Bullet points that summarize the business opportunities with buzzwords like: "innovation" "share price" "net profit" "shared value" "shared growth". Images where stakeholders or sustainability issues are presented as a source for innovation.	-	-	Showing how different stakeholder opinions are considered by presenting their level of interest in a chart, circle or other graphical image.
Roots	Risk management approach	Shared value thinking	CSR, Accountability	Differentiation strategy	Legitimation strategies
Consequences	The technical approach protects business and shareholders from threats that sustainability issues might cause.	By identifying the business opportunities the company is able to create more profit from, and in fact benefit from social and environmental problems.	By identifying the most material impacts, the company is able to develop policies to manage them.	Materiality assessment does not interfere with the existing strategy or require any resources. New views are not needed.	Legitimacy is gained by reporting only on the issues that stakeholders are interested in. There is no need to address the impacts that stakeholders are not aware of.
Appeal to principle	Environmental and social problems are a risk that need to be protected from/ Business is a victim not a cause	Environmental and social problems create business opportunities	The company is responsible for its impacts on the society and environment.	Integration: All communication needs to be consistent with the long-term, unique sustainability strategy that creates competitive advantage	The company is responsible for the issues that stakeholders are interested in.

5 DISCUSSION AND CONCLUSIONS

5.1 Theoretical contribution

The purpose of this study is to increase understanding of materiality in the context of sustainability reporting. The objective was to examine the materiality concept and its application, as well as to explore the point of view through which something is considered as material. The empirical research was conducted in two phases. Firstly, to scrutinize the content of materiality disclosures and secondly, to identify the frames of materiality. The findings of these two analyses are intertwined and support each other by providing different angles to the subject. The discussion about the theoretical contribution is structured by presenting three propositions, which aim to view the observations of this study in relation to the previous research.

Proposition 1) Materiality reflects how the company positions itself towards sustainability and accountability

Materiality represents the stand the companies take in determining what they consider important in regard to sustainability issues and why. Therefore, it is argued that materiality reflects how the company positions itself towards sustainability and accountability. The variations in the extent to which sustainability and accountability are embraced in materiality disclosures reflect the stand taken, regardless of what the report content otherwise is.

Identified frames help to understand the point of view through which something is considered as material. The differences between the identified frames reflect that there are various ways of seeing sustainability reporting and companies' responsibility towards sustainable development. Motives for sustainability reporting are commonly seen to vary between strategic and holistic motives (Rinaldi et al. 2014, 88-89). The strategic approach has groundings in the mainstream business literature. Society and nature are considered mainly as the means to gain profit. On the contrary, the holistic view is based on moral and ethical

groundings. The holistic view considers the company to be accountable for its impacts on the society and nature, regardless of their connection with financial success. (Rinaldi et al. 2014, 88–89.) As previous research shows, the strategic approach seems to be more common (see e.g. Laine 2009), therefore, it is no surprise that this is the case also in this study. The risk management frame, the business opportunity frame, the unified strategy frame and the stakeholder interest frame have all common grounds in the strategic approach.

The most apparent connection to the strategic approach is shown in the business opportunity frame. This frame highlights the positive impacts of a company on its surroundings through business innovations. Stakeholder engagement is considered a means to gain new insights to identify business opportunities. According to the strategic approach and the business opportunity frame, there is no conflict between sustainable business practices and profit generation. However, there is a risk within this frame that the significant impacts on sustainability that do not have any connection with business opportunities are left outside of the material issues.

The risk management frame also belongs to the strategic dimension, but with a slightly different approach. The focus is not on how to create new opportunities, but how to continue to make profit in a rapidly changing environment with major sustainability challenges. By emphasizing the risk coming from the outside, the impacts that the company has on sustainability are neglected. Therefore it can be claimed that this frame has a connection to the approach, which is based on the neoclassical economic view that corporate responsibility has no role in business (see Friedman, 1970). In other words, the company is not responsible to report on its impacts on sustainability. The technical nature of this frame depicts the idea that the materiality exercise is a neutral and value-free measurement of ranking the issues.

The stakeholder interest frame also belongs to the strategic dimension. Within this frame, stakeholders are seen as instrumental in defining what matters (Donaldson & Preston, 1995). A connection can be seen with the approach, which views sustainability reporting as a public relations tool for reputation management in order to gain legitimacy from stakeholders that are crucial for the organization's success (Brown et al. 2009; Lindblom 1993). Therefore,

what is interesting in this frame is the selection of stakeholders that the company engages with. After all, the understanding of materiality is based on their view. It is crucial that the selection of stakeholders is broad and representative, but if the selection is based on the stakeholders that are supportive towards the business strategy, the attention can be led to the desired direction, which narrows the outcome of the process (see Leach et al. 2010). Within this frame, the company reports on issues that the selection of stakeholders they chose to engage with are concerned about. This way the company outsources the responsibility of defining what matters to the stakeholders. Alternatively, it can use legitimization strategies to tell their own side of the story (Lindblom 1993). However, the question of how exactly the stakeholder concerns are taken into consideration, is important here. For example, in order to uncover stakeholder concerns, the company might simply inquire which sustainability issues the stakeholders consider the most important without connecting the company's impacts on those issues. Stakeholder concerns are nonetheless taken into consideration, as it enables the company to report on the issues stakeholders are interested in.

The frames that support the strategic approach can also be seen to represent weak sustainability (Gutes 1996, 147; Eriksson & Andersson 2010, 17). Especially in the business opportunity frame, the strong will to find areas in which the company is able to create sustainable profits directs the attention to only certain areas. Consequently, the positive impacts created in certain business areas potentially compensate the negative impacts in other areas. The environmental and social problems become business opportunities, and in turn the need to address these problems no longer exists. This view is based on the belief that market mechanisms can create a just society, and the negative impacts are downplayed or neglected. Weak sustainability is also represented in the risk management frame. The frame focuses on sustaining the shareholder value by trying to identify the risks that sustainability challenges pose to the company. As Banerjee (2003) argues, the question is no longer about sustaining the planet, but sustaining the corporations.

The holistic approach is shown in the accountability frame. The materiality process in this frame focuses on the environmental, social and economic impacts that are caused by the operations of the company. The accountability frame considers the broad range of

stakeholders as the users of the report, and aims to build a comprehensive view of the company's impacts on different stakeholder groups, thus reflecting the normative view of the stakeholder theory (Donaldson & Preston, 1995; Gray 2014, 85). The materiality process adds value to sustainability reporting by highlighting the most significant information to be reported on based on the most material impacts. Considering the material impacts with a wide focus on the consequences that business activities have, the accountability frame has more common characteristics with the strong sustainability view than the other frames have (Gutes 1996, 147; Eriksson & Andersson 2010, 17). The strong sustainability view within business context is based on the assumption that, for instance, environmental degradation cannot be justified by increased social well-being (e.g. by creating job opportunities). The wide range of impacts need to be considered and recognized in materiality analysis. The important question here relates to the methods used in materiality analysis, as some can be more inclusive than others. However, the underlying frame has more effect in narrowing or widening the process and the outcome than the chosen method (Leach et al. 2010, 101).

Proposition 2) The current understanding of materiality does not enhance stakeholder accountability

The basis of this study relies on the normative assumption that companies are held accountable over their social, environmental and economic impacts caused by their operations to a wide group of stakeholders (Gray et al. 2014, 8), and the purpose of sustainability reporting is to communicate these impacts. Therefore, in the context of sustainability reporting, the materiality concept has the potential to increase stakeholder accountability when it is defined according to the most significant impacts that the company has on the environment and society. The findings of this research, however, show that in the current reporting practices, this is rarely the case.

The findings show that the most common approach in materiality definitions is to connect the stakeholder view with business considerations, which means that the impact of the company seems to be commonly neglected and replaced by the criteria of evaluating the impact on business or importance to business. This indeed may give the definition a whole

another meaning. McElroy (2011) argues that materiality should be all about the impacts, which is the reason why the dimension from GRI's definition "significant economic, environmental and social impacts" cannot be replaced by "impacts on the company". The whole idea of materiality in sustainability reporting is about environmental, social and economic impacts caused by the organization, regardless of how they relate to a particular business plan or strategy. Excluding the issues that do not have any connection to business performance or financial revenue might lead to the concerns of other stakeholder groups than shareholders being ignored. According to the findings of this study, the concern raised by Unerman & Zappettini (2014, 173) that materiality could be used as a tool to leave out the issues that are not in line with business strategy, seems realistic.

Leaving out the dimension of assessing the environmental, social and economic impacts does not necessarily mean that they are not included, as they could hypothetically be included in the stakeholder dimension. If there is a broad understanding of the stakeholders including natural environment and future generations (see Rinaldi et al. 2014, 86.), the environmental, social and economic impacts are most likely considered through analysing the importance to different stakeholder groups. However, none of the companies explicitly refer to nature or future generations as stakeholders, confirming that the dimension does not replace these considerations. Nevertheless, natural environment and future generations are the stakeholder groups that suffer the most if the impacts of the company are not assessed. Furthermore, there is a risk that this approach leaves out the impacts caused by the company that stakeholders are not aware of. This leads to the possibility that potentially severe impacts are automatically excluded, unless stakeholders are already aware of them, or unless the connection to business considerations exists.

Another issue affecting stakeholder accountability is associated with the practices in which the differences between stakeholders are omitted. The results of the materiality analysis are commonly presented in a two-dimensional materiality matrix. This means that the intention of trying to draw the views of the stakeholders' together leads to a narrow view, which most likely excludes the views of the less powerful stakeholder groups. Within any forum, there are certain actors who have a stand, the power to define the discourse. Correspondingly, there

are also missing or underrepresented voices. (Creed et al 2002, 45). The materiality matrix creates an illusion of a consensus among different stakeholder groups. The over-simplified picture that materiality matrices represent has also been noticed in the recent publication from AccountAbility (2013, 10).

The roots of the materiality concept in the sustainability reporting field have been derived from financial reporting, and according to this study, the elements of that definition can still be found in the current sustainability reporting practices. In financial reporting, materiality is especially used to protect the decision-making of the users of financial information. In the current sustainability reporting practices, even though the elements of different frames are intertwined, the business considerations are present in some way or another in each materiality disclosure in the sustainability reports. This means that the investors hold a special position as the users of the information. Highlighting the importance of investors as the users of sustainability information also shows that the definitions from SASB and IIRC have potentially influenced the sustainability reporting practices. The conflicting views that are represented between different guidelines and approaches to materiality appear concurrently in the current reporting practices.

Also sustainability indices, such as Dow Jones Sustainability Index or Global 100 have power in defining the material issues. These indices are commonly used as a source for identifying the material issues. Companies clearly want to be ranked in the indices, and therefore reporting on matters that these indices use for the basis of their analysis seem to be considered as material. It has been questioned, whether the data collected is material and actually measures sustainability performance, as the company may be scored a sustainability leader by some ratings and a laggard by others (AccountAbility 2013, 6). Highlighting the investors as the main user group implies that the overall purpose of sustainability reporting as a tool for increasing accountability to a broad range of stakeholders is not fulfilled.

Additionally, the findings show that there are practices seeking stakeholder opinions, which do not necessarily fulfil the actual meaning of stakeholder engagement, which should be based on reciprocity, two-way interaction, mutual respect and dialogue (see Manetti 2011,

111). This is especially true in practices where external stakeholder concerns are gathered indirectly from the internal views of the management or employees. In addition, it can be questioned whether the collection of stakeholder views from on-going engagement processes leads to a comprehensive view of what the most material issues are. It is not possible to draw inferences from the quality of the stakeholder engagement practices designed for the materiality analysis, as the information considering the stakeholder input is not extensively reported. However, those stakeholder processes designed specifically for materiality purposes, have the potential to fulfil the requirements of genuine stakeholder engagement.

Proposition 3) The conflicting objectives for sustainability reporting are reflected in materiality disclosures

Reporting immaterial information and excluding material information is the main concern that the materiality concept aims to provide guidance with (Edgley et al. 2014, 17). Adopting the materiality concept the quality of the reports could be improved without increasing the length of the report. However, it seems that materiality does not decrease the amount of the information in many cases. Various reporting practices are utilized in the field, which means that the amount of information still remains large and the material information may be lost. This can be explained by the conflicting motives to report on sustainability. Companies seem to be willing to legitimate their position and follow the sustainability reporting standards, but on the other hand they use sustainability reporting as a communication channel for their sustainability strategy and the efforts they are making in regard to sustainability. These are somewhat conflicting objectives that are reflected in materiality disclosures.

In the adaptation of a certain approach to materiality assessment, the findings show that even though all the sample companies report in accordance with GRI, they also refer to other reporting standards such as SASB and AccountAbility. This indicates that they select bits and pieces from different guidelines, which suit their own business context and interests. The findings also suggest, that there is pressure to refer to international standard setters such as UN, ISO and CDP. Most of the companies refer to them while trying to identify potentially material subjects. Another common source for identifying the potentially material issues is

from benchmarking other companies and industry associations. Benchmarking is done to understand sector wide issues. This indicates that even though there are differences in the material impacts between the companies, there are also similarities among the same industry or sector. Following the legal requirements, willingness to adopt voluntary standards or just adopting similar approach with peers can be explained by institutional theory (Larringa-Conzalez 2007). Based on the research sample that is only limited to reported data, the analysis of the exact institutional mechanism would be arbitrary. Nevertheless, the findings confirm that those mechanisms exist in materiality processes.

The willingness to refer to different standards might also implicate that they are used in order to legitimate the approach. As the previous research shows, referring to reporting standards is used for reputation management and brand protection (Brown et. al 2008). Considering the materiality disclosures, the companies use the adaptation of guidelines merely symbolically, without implementing them correctly. Certain elements from the guidelines are shown in the reports, such as stakeholder engagement. However, the findings reveal that materiality disclosures are commonly explained on a general level without a detailed description of the process. The interferences based on the reported information suggest that certain elements are included to gain legitimacy, but the actual potential to increase accountability through transparent description is not achieved.

The companies' willingness to communicate their own sustainability strategy is shown in the unified strategy frame. The materiality analysis is conducted in the fashion of a box ticking exercise, and as a tool for gaining legitimacy without actually paying attention to conducting a thorough materiality analysis. The materiality process is conducted by rearranging the components that are already predefined in the sustainability strategy for fulfilling the reporting requirements. The stakeholder interest frame and the unified strategy frame also have similar characteristics, as both want to keep things running as usual without investing any extra resources in the materiality analysis. The unified strategy frame is more straightforward in doing so, but the stand taken in the stakeholder interest frame is to minimize the costs by only recognizing issues that stakeholders are aware of.

The results show that media analysis is a commonly used tool in the materiality assessment. According to the Unerman & Zappettini (2014) study, before making inferences about the company and the incidents discussed in media, one should analyse whether the issue raised in the media was filtered through the materiality analysis. They also point out that “It would be unreasonable to expect large companies to disclose individually all incidents that fell within a particular material topic.” (Unerman & Zappettini 2014, 183). Based on their notions it is considered reasonable that media analysis is used as a tool in the identification phase. Media is also commonly identified as one of the stakeholders. Traditionally, the role of the media has been to project the views considered important in society. In addition, many NGOs consider the media as a vital part of their strategy in raising awareness of important concerns. (Deegan 2010, as cited in Rinaldi et al. 2014, 96–97). NGOs commonly also give voice to the stakeholders that are unable to participate in the dialogue, such as children, nature and future generations (Rinaldi et al. 2014, 96). Therefore using media as a source of information and responding to issues raised in media is considered important in increasing transparency and accountability. Nevertheless, the purpose of using the frequency of media appearance as a tool for prioritizing the issues, refers more to reputation management as the negative media exposure can cause harm to the company’s business. Instead the issues discussed in the media should be, as Unerman & Zappettini (2014) argue, filtered through materiality analysis in order to evaluate whether the issue is indeed material. Just because an incident might appear significant, it does not necessarily mean that the incident or the outcome is material in the overall context of the company (Unerman & Zappettini 2014, 173).

5.2 Contribution to organizational practice

The aim of this study was not to build a comprehensive model or to find the best practice for conducting a thorough materiality analysis. However, there are a few notions for the organizational practices that can be suggested based on the findings of this study. Firstly, the materiality concept should be used in the way it was designed to, to define the sustainability report content by focusing only on the most material impacts. Materiality analysis is not supposed to be a disconnected element that serves only the purpose of fulfilling the reporting requirements, instead it should truly determine the sustainability report content. Secondly,

there is room for improvement in reporting on the materiality assessment process and the criteria for defining the material issues.

If materiality is not about the environmental, social and economic impacts that the company's operations causes, it can be questioned whether the company is even fully aware of them? Understanding one's own impacts is the prerequisite to manage them and ultimately to become a more sustainable operator. Sustainable business operations need to be based on comprehensive understanding of the impacts that are caused by company's operations. Skipping the phases can be harmful in the long run both to the business, and more importantly to the society and nature surrounding it. Focusing on highlighting the material issues from a business perspective creates blind spots that hinder true sustainable development.

Without a transparent communication of the environmental, social and economic impacts, the broad range of stakeholders, including those that are crucial for the financial success of the company, are not fully aware of what is going on. After all, the purpose of materiality is not to make decisions for the stakeholders, but to provide information that is the most important in regard to decision-making. By excluding the information that does not have a link to business, creates a risk of filtering out important information associated with stakeholder decision-making.

Identifying the broad range of potential issues to be reported on can be based on fairly similar sources of information regardless of the organization in question. Based on the findings, there are a lot of similarities in the current practices, such as using stakeholder questionnaires or surveys, contents of global sustainability standards, benchmarking other companies, participation in industry associations to understand sector wide issues, and conducting media analysis. However, the crucial part that affects what exactly is considered material for the specific company in question, is the prioritization of issues, which requires making company specific analysis. There is room for improvement in reporting the criteria for prioritizing. The broad range of issues will set a prerequisite for the range of impacts that potentially occur. The impacts may occur in different parts of the business, therefore the impacts should be analysed throughout the business operations and the value chain. The operations and value

chain are unique in every single organisation, as are the stakeholders, who can affect or can be affected by the organisation.

According to the results of this research, the requirement of presenting the criteria for prioritization is commonly replaced by presenting a materiality matrix. As already discussed earlier, the materiality matrix inevitably narrows the point of view, and ultimately cuts through the diversity of interest into one dominant way of seeing things that suits the underlying frame. Therefore, this study encourages organizations to avoid using a materiality matrix, and instead focus on explaining the process in more detail.

In addition, based on the conclusions of this study, it is crucial to keep the focus on the environmental, social and economic impacts. By removing the impact considerations means separating the sustainability element from sustainability reporting. Awareness of the underlying frame and the point of view throughout each step of the materiality assessment can offer a conscious choice of changing the direction to broaden up the point of view, if needed.

5.3 Suggestions for policy implications

As businesses are recognized in the global context as key players in trying to achieve SDG's, it is important that companies are actually aware of and reporting on their impacts on sustainability. Accordingly, the differences in materiality guidance available should be reconciled. The conflicting approaches only create confusion and the potential to misuse the concept in a way that suits one's own interests.

The definition of the materiality principle according to GRI promotes the accountability view. However, the findings from the current practices show that the GRI approach does not seem to be working, as only a few companies follow the materiality principle. This could also mean that there is room for improvement and clarity in the reporting requirements. The GRI's two-dimensional materiality approach is unnecessary as the stakeholder point of view is already built in the dimension that emphasizes 'the organization's significant economic,

environmental and social impacts'. The other dimension expressed as 'substantively influence the assessments and decisions of stakeholders' can be associated with the definition of materiality in the financial reporting context. The difference is that the users of the information that could 'influence substantively influence the assessments and decisions' include the broader range of stakeholders, whereas in financial reporting users of the information are mainly shareholders (Edgley et al. 2014, 16). This may create confusion and wrong associations. Clearer reporting requirements could ensure that organizations understand how to define what is material.

It can be questioned whether the reliance on the companies' ability and willingness to conduct the materiality process thoroughly is reasonable. There should be a system ensuring that companies willing to report according to GRI actually use the central elements of the guidelines correctly. External assurance does not solve the problem, firstly, because they primarily rely on the company's own approach in defining materiality, and secondly, the assurance providers use assurance standards that interpret materiality in a different way. More detailed sector guidance on materiality provided by GRI could be one step forward in sustainability reporting. The SASB approach that defines sector-specific material issues seems more relevant. However, the problem with SASB's approach is that it recognizes investors as the main stakeholder group, which leads to the critique that was presented on the business perspective on materiality. Even so, the approach of defining the potentially material impacts per sector could be a prospective solution.

The different standards should position themselves more clearly against each other and communicate their stand to the reporting organizations. Based on the comparison of different reporting standards (Table 1) it seems that the standards' purpose is not to compete with each other, but instead they simply serve different purposes. GRI Guidelines are designed for sustainability reporting purposes, AccountAbility's approach is designed for strategy development, IR framework is for integrated reporting, and SASB is designed to fulfil disclosure requirements by U.S regulation. Additionally, these reporting standards are targeted at different audiences. Accordingly, in sustainability reporting the most reasonable approach is to follow the GRI Guidelines also in terms of defining the most material

information. The confusing part is that all of the reporting standards provide guidance in regard to materiality. It should be recognized that reporting on sustainable development-related issues can be done by different means that serve different purposes. Accordingly, the proliferation of standards mainly increases the amount of reported information. However, combining the elements of different standards creates an oxymoron that serves only the company's self-interest.

5.4 Limitations and suggestions for further research

The validity and reliability of this study may be evaluated through analysing the methodological decisions (Tuomi & Sarajärvi 2009, 140-149). Research about materiality as a phenomenon could be conducted in multiple ways and from different perspectives as the concept of materiality is multifaceted. This research process, the methodological decisions and the findings are displayed in detail to improve the validity and reliability of the study and to provide the reader account of how the conclusions were formed.

The findings of this research cannot be generalised to all the reporting organizations. There are always factors, which make the particular sample unique, but considering these, some speculations about the applicability can be done (Ritchie & Lewis 2003, 263-270). Firstly, the sample represents only multinational listed companies and secondly, the sample is rather small. Within a similar context of multinational listed companies, however, the findings can be applied, but a different or a larger sample would most likely provide additional perspectives on the subject.

This study contributes to the sustainability reporting literature and adds insights to the concept of materiality in the current sustainability reporting practices. The relevance of this theoretical contribution may be evaluated through further empirical research. The relevance depends on how the further empirical evidence supports these views (Ritchie & Lewis 2003, 263-270). Exploring only reported information is important as such, as it is also a part of constructing the social reality (Laine, 2009). However in order to create a complete picture of the research phenomenon, further research should be conducted within the reporting

organizations. This would enable us to explore more precisely what companies mean by materiality, and how exactly the processes were completed. This would require more in-depth research inside the organizations and commitment to the materiality processes, for example by employing the ethnographic approach as a method, or by conducting interviews with people involved in the process.

The findings show, the disclosures on materiality are mostly brief and incomplete descriptions of the process, omitting many details. Therefore, the researcher's interpretations of the subject had an influence throughout the analysis. Reliability could be improved by using a second reviewer in analysing the data to confirm the interpretations. Unfortunately, this was not possible within the time frame of this study. Even if the analysis was conducted in structured manner, the possibility of drawing other interpretations from the data is recognized. (Schreir 2012, 24.) Nonetheless, the nature of the qualitative research is always interpretive. (Ritchie & Lewis 2003, 3). The validity of the findings was significantly improved by combining two analysis methods, qualitative content analysis and frame analysis (Tuomi & Sarajärvi, 2009).

To analyse the phenomenon from a different angle, there are some suggestions for further research. Further research could be done by focusing only on a few case studies in order to gain a deeper understanding of the approach an individual company has chosen. This could also enable the analysis of how the identified material issues are reported on, and the evaluation of whether they actually represent the material impacts that the company has. Additionally, it could be interesting to analyse how the approach to materiality analysis and the range of material issues change over time, or to explore if there are differences between these, depending on the size, sector or the ownership of the organization.

In any case, more empirical work is required to increase the understanding of the phenomenon, and to provide evidence and suggestions for standard setters and reporting organizations for the future development of the materiality concept. The concern raised in this study is that the conceptualization and operationalization of materiality in the current sustainability reporting practices exclude the social, environmental and economic impacts.

Using the materiality concept as a tool for creating a preferred image of the company's sustainability performance is a concern that needs to be addressed. Thus, the validity of the report as a sustainability report can be questioned.

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APPENDICES

Appendix 1: The characteristics of the sample companies

Name	Label	Sector	Country	Title	Publication Year	Application Level
Biogen Idec	R1	Health Care Products	United States	2013 Corporate Citizenship Report	2014	Core
Keppel Land	R2	Real Estate	Singapore	Sustainability Report 2013	2014	Comprehensive
Kesko	R3	Retailers	Finland	Corporate Responsibility Report 2013	2014	Core
Danske Bank	R4	Financial Services	Denmark	Corporate Responsibility 2014	2014	Core
L'Oréal France	R5	Household and Personal Products	France	GRI Report	2014	Core
Marks & Spencer	R6	Retailers	United Kingdom	Plan A Report 2014	2014	Undeclared
Johnson & Johnson	R7	Household and Personal Products	United States	2013 Citizenship & Sustainability Report	2014	Core
StarHub	R8	Telecommunications	Singapore	Annual Report 2013	2014	Core
Philips	R9	Consumer Durables	Netherlands	Annual Report 2013	2014	Comprehensive
Nokia	R10	Consumer Durables	Finland	Nokia People & Planet Report 2013	2014	Core
Sigma-Aldrich	R11	Chemicals	United States of America	2013 Global Citizenship Report	2014	Core
Westpac Banking Corporation	R12	Financial Services	Australia	2014 Annual Review and Sustainability Report	2014	Comprehensive
Natura	R13	Household and Personal Products	Brazil	2013 Natura Annual Report	2014	Comprehensive
Samsung Electronics	R14	Technology Hardware	Republic of Korea	Sustainability Report 2014	2014	Core
DNB	R15	Financial Services	Norway	Corporate Social Responsibility Report 2013	2014	Core
Ecolab	R16	Chemicals	United States of America	2013 Corporate Sustainability Report GRI Index	2014	Core
LG Electronics	R17	Consumer Durables	Republic of Korea	2013-2014 LG Electronics Sustainability Report	2014	Core
Wolters Kluwer	R18	Media	Netherlands	2013 Sustainability Report	2014	Core
Intel	R19	Technology Hardware	United States of America	2013 Corporate Responsibility Report	2014	Core
British Sky Broadcasting Group	R20	Media	United Kingdom	Seeing the bigger picture-Summary Report 2014	2014	Core
Daimler	R21	Automotive	Germany	Sustainability Report 2013	2014	Undeclared
Shinhan Financial Group	R22	Financial Services	Republic of Korea	Shinhan Financial Group CSR Report 2013	2014	Undeclared
Colgate-Palmolive	R23	Health Care Products	United States of America	Sustainability Report 2013	2014	Undeclared
H&M Hennes & Mauritz	R24	Retailers	Sweden	Conscious Actions Sustainability Report 2013	2014	Core

Australia & New Zealand Banking Group	R25	Financial Services	Australia	2014 Corporate Sustainability Review	2014	Core
National Australia Bank	R26	Financial Services	Australia	Summary Review 2014	2014	Core
CapitaLand	R27	Real Estate	Singapore	Global Sustainability Report 2013	2014	Core
ASML Holding	R28	Technology Hardware	Netherlands	Corporate Responsibility Report 2013	2014	Core
Prologis	R29	Real Estate	United States of America	2013 Corporate Responsibility Report	2014	Core

Appendix 2: Connecting material issues with GRI aspects

Responsible business			
<i>Sky material issue</i>	<i>G4 aspect</i>	<i>Indicator(s)</i>	<i>Reference/direct response</i>
Customer satisfaction	Product and service labelling	G4-PR5: Results of surveys measuring customer satisfaction	Customer service Customer service data Customers and viewers
	Audience interaction (M)	DMA	Customer service Safe and accessible Data protection Customers and viewers
Responsible gambling	None applicable		
Upholding good editorial standards Upholding good advertising principles	Marketing communications (M)	G4-PR7: Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion and sponsorship, by type of outcomes	On-screen standards On-screen standards data
	Freedom of expression (M)	DMA	
Child safety online	Content dissemination (M)	M4: Actions taken to improve performance in relation to content dissemination issues (accessibility and protection of vulnerable audiences and informed decision making) and results obtained	Safe online and on screen
Accessibility of products and	Indirect economic impacts	G4-EC7 (M): Development and impact of infrastructure investments and services supported	Safe and accessible Safe and accessible data (A)

(R20 2013/14, 9)

Specific Standard Disclosures

[First commitment] Creating customer value through customer-oriented management and information protection

- Customer Privacy - DMA
- Compliance - DMA

[Seventh commitment] Pursuing shared development with suppliers and supporting their CSR activities

- Supplier Assessment for Impacts on Society - DMA
- Grievance Mechanisms for Impacts on Society - DMA

[Second commitment] Enhancing credibility by strengthening ethical management

- Anti-corruption – DMA
- Anti-competitive Behavior - DMA
- Compliance – DMA

[Eighth commitment] Developing environment-friendly products and services

- Products and services - DMA
- Product Portfolio - DMA

[Fourth commitment] Developing human resources and creating a great workplace culture

- Employment - DMA
- Occupational Health and Safety – DMA
- Training and Education – DMA
- Diversity and Equal Opportunity - DMA
- Equal Remuneration for Women and Men - DMA
- Labor Practice Grievance mechanisms - DMA

[Ninth commitment] Using resources efficiently and reducing environmental impacts

- Materials - DMA
- Energy - DMA
- Water - DMA
- Emissions - DMA
- Effluent and Waste - DMA
- Transport - DMA
- Overall - DMA

[Fifth commitment] Contributing to the development of local communities through social contribution activities

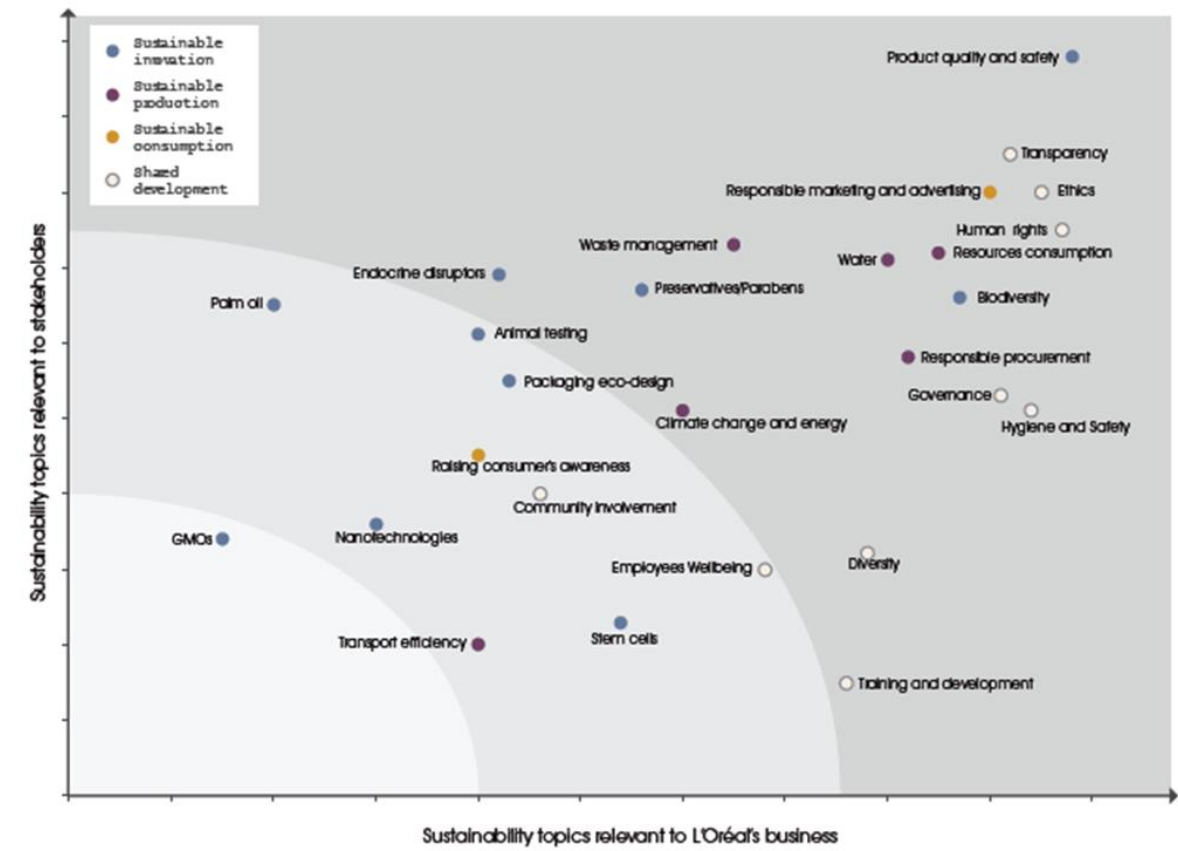
- Indirect Economic Impacts - DMA
- Local Communities - DMA

[Sixth commitment] Increasing financial inclusion for the financially underserved people

- Local Communities (financial services sector-specific society performance indicators) - DMA

(R22, GRI Index. 2013)

Appendix 3: Materiality matrices



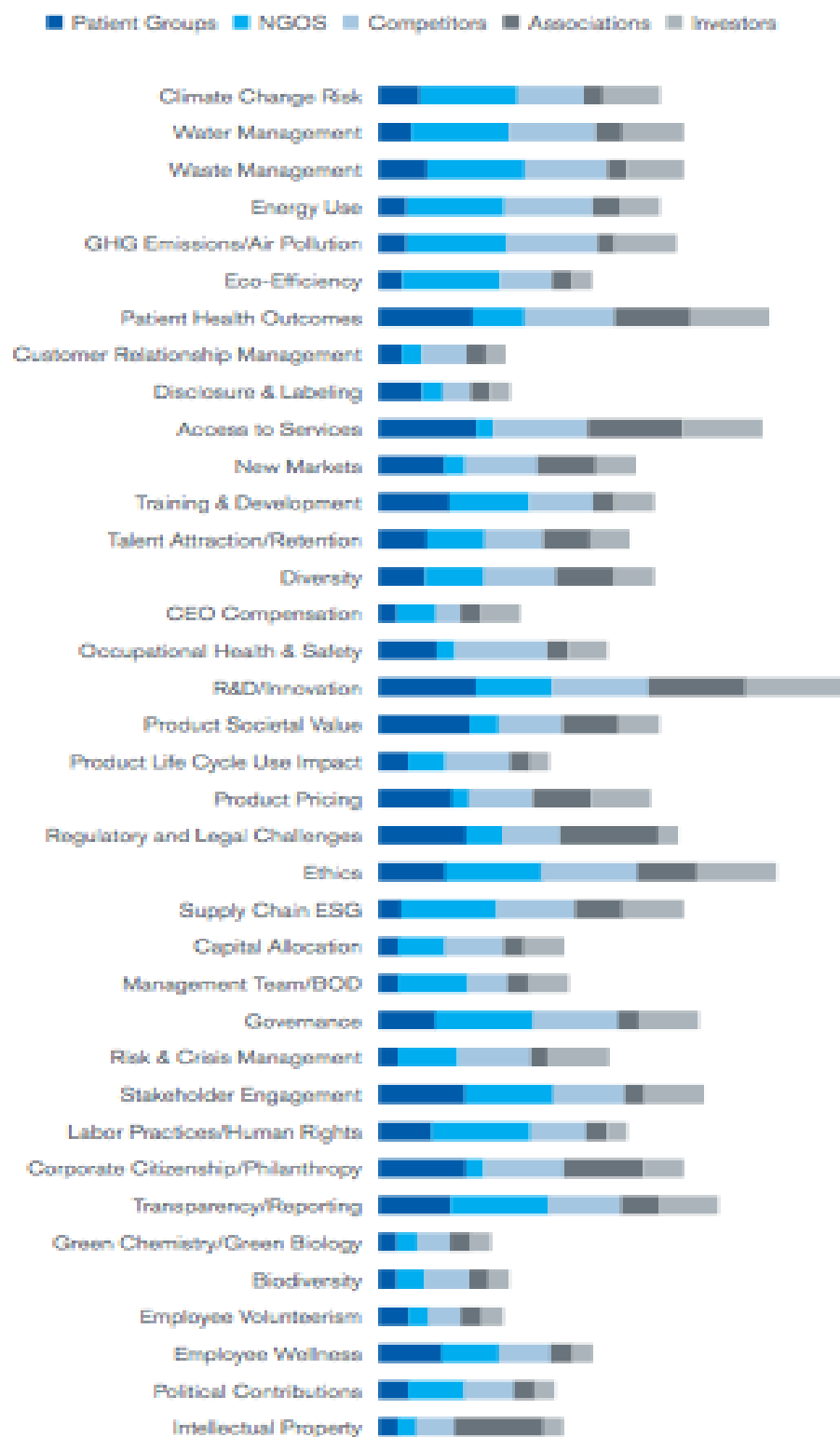
(R5, 2014)

2013 MATERIALITY MATRIX

Importance to Stakeholders		
Importance to Stakeholders	<ul style="list-style-type: none"> • Supply Chain ESG Management • Regulatory & Legal Challenges 	<ul style="list-style-type: none"> • R&D/Innovation • Patient Health Outcomes • Access to Treatment/Societal Value • Ethics/Governance • Stakeholder Engagement • Citizenship/Philanthropy • Environmental Impacts • Intellectual Property
	<ul style="list-style-type: none"> • New & Emerging Markets • Labor Practices/Human Rights • Product Life Cycle Impact • Senior Management/BOD • Political Contributions • CEO Compensation • Biodiversity • Green Chemistry/Green Biology 	<ul style="list-style-type: none"> • Workforce Diversity • Customer Relationship Management • Talent Attraction/Retention • Training & Development • Occupational Health, Safety & Wellness • Risk & Crisis Management • Disclosure & Labeling • Capital Allocation
	Impact on Business	

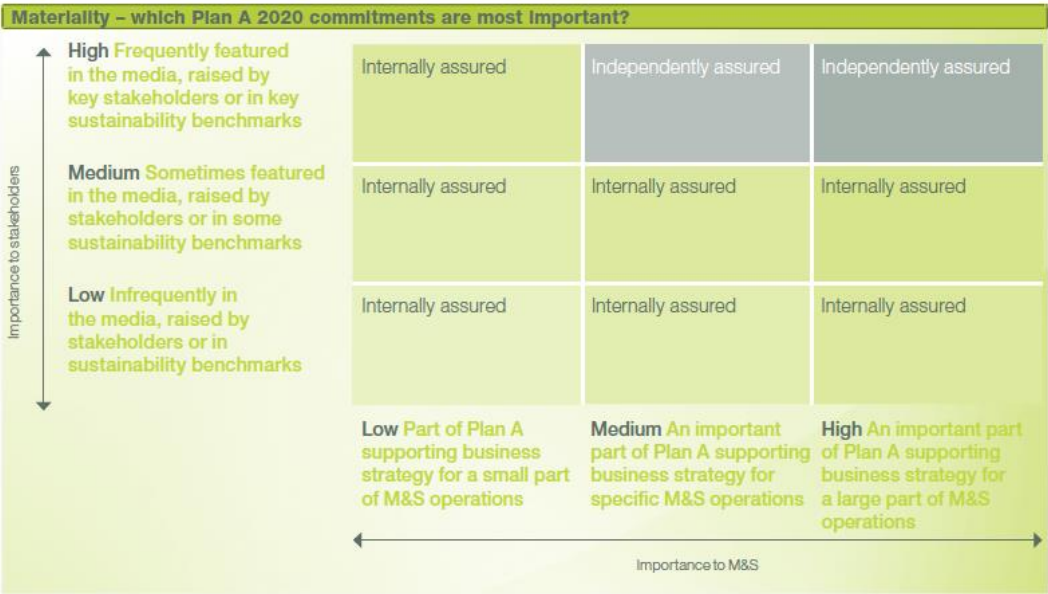
(R1 2013, 49)

FULL RANGE OF ISSUES/IMPORTANCE TO KEY STAKEHOLDER GROUPS

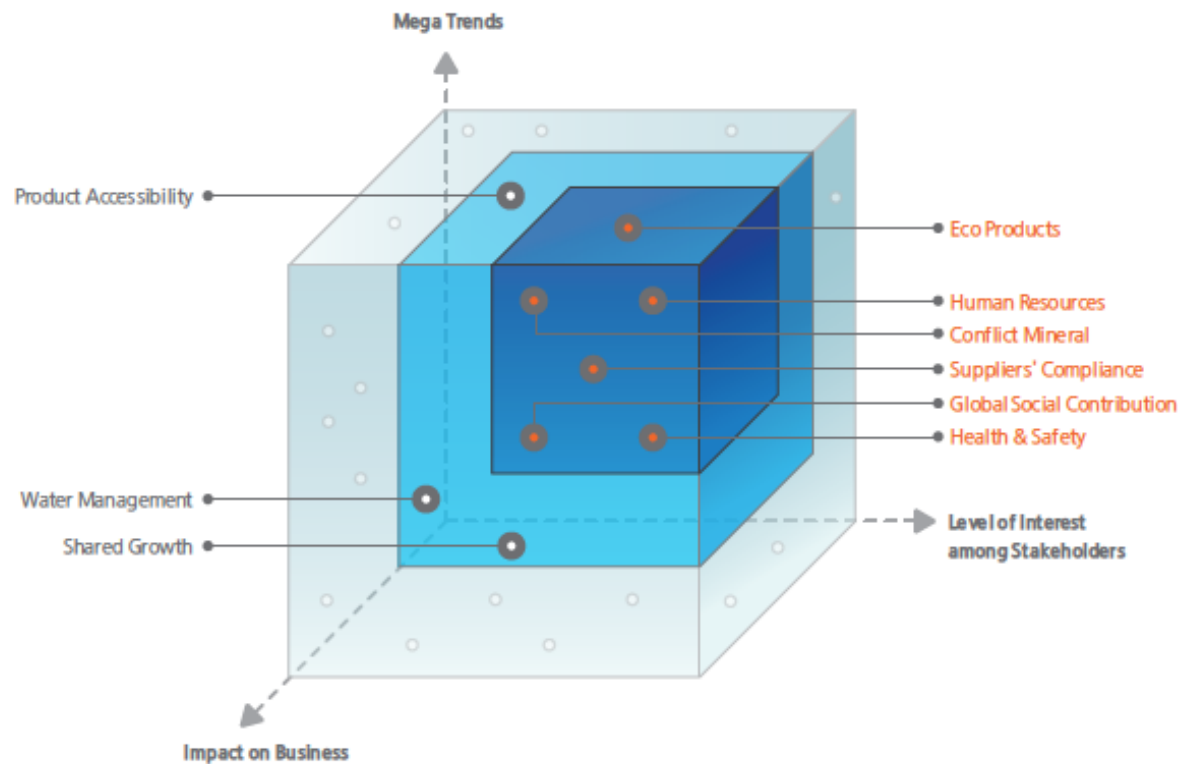


(R1 2013, 49.)

Appendix 4: Visual presentation of risk management frame



(R6 2014, 34.)



(R14 2014, 30.)

Appendix 5: Visual presentation of business opportunity frame



(R18 2013, 5.)